THE UNIVERSITY OF CHICAGO SURVEY

VOLUME I

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THE UNIVERSITY OF CHICAGO SURVEY

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II. The Organization and Administration of the University

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TRENDS IN UNIVERSITY GROWTH

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TRENDS IN UNIVERSITY GROWTH

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22838
UDAIPUR

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FOREWORD

In 1923 the General Education Board of New York City granted funds to the University of Chicago for the making of a survey of the University; later the gift was supplemented by a second grant. On recommendation of Acting President Woodward in February, 1929, Floyd W. Reeves was appointed as professor of education and Director of the University Survey. Work on the survey was begun October 1, 1929, and has been carried on continuously since that date.

The entire scope of the survey embraces some forty or fifty projects, which are being grouped for purposes of publication into a series of volumes. This report on *Trends in University Growth* is Volume I of the series. The titles in the series are announced on page ii of this publication.

The staff for the survey of trends of growth in the University consisted of: Ernest C. Miller, Recorder at the University of Chicago; John Dale Russell, associate professor of education; and Floyd W. Reeves, Director of the University Survey. Acknowledgment should be made of the assistance rendered the staff in compiling and checking data by the personnel of a number of the administrative offices of the Uni-

versity. The responsibility for the interpretation of the data and for the conclusions that are drawn rests with the survey staff, not with the persons who have co-operated in supplying data for this report.

For the survey staff,

FLOYD W. REEVES, *Director*

November 28, 1932

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CHAPTER I

INTRODUCTION

The University of Chicago was established in 1892, only forty years ago, and is therefore one of the youngest of American universities. In the comparatively brief period of time since its founding, it has risen to a position of eminence among the institutions of its type. The factors that have produced this attainment do not yield readily to objective analysis. Those who know the University intimately point to four influences that have had a notable part in the development of the institution. In the first place, the University is fortunately located in the center of a large concentration of population and is easily accessible to its constituent territory. According to the United States census of 1920, 38 per cent of the country's total population of college age (eighteen to twenty-two) resided within five hundred miles of Chicago. A study by W. C. Eells shows that in recent years the center of student population for institutions of higher education has been in Illinois, only a little way south of the city of Chicago.[1] In the second place, the University has been blessed by the gener-

[1] W. C. Eells, "The Center of Population of Higher Education," *School and Society*, XXIV (September 11, 1926), 339–44.

osity of its benefactors. Funds have been forthcoming for its support in unusually generous amounts. In the third place, there has been a loyal and capable faculty group that has always stood for the highest ideals of scholarship, and has contributed greatly to the national reputation and prestige of this young institution. Finally, the University has had unusually excellent leadership, both on its Board of Trustees and in the principal administrative offices. The vision of the first President and the wisdom of the Board of Trustees in the early formative period of the institution have been developed into a tradition that is especially challenging to their successors. These successors in turn have made records that will challenge still further generations of administrative officers and Board members. The combination of these four factors—excellent location, generous benefactors, scholarly faculty, and capable leadership—undoubtedly goes far toward explaining the present eminence of the University of Chicago.

Although it does not seem possible to analyze objectively the factors that have contributed to the rapid development of the University, it is possible to present data showing the way in which the University has grown since its founding. It is the purpose of this volume of the survey series to trace the history of growth in a number of important items for which objective data can be found. The study presents analyses of statistical information concerning student en-

rolment, student-majors of registration, degrees granted, instructional staff, curriculum development, physical plant and equipment, and finances. Interrelationships between the trends of growth in these various factors are also studied. The growth of the University Libraries is not treated in this volume, but such data on this point as are available are presented in Volume VII of The University of Chicago Survey.[2]

The present volume on trends of University growth deals only with the University of Chicago. No attempt is made to introduce comparative data from other institutions because trustworthy statistics from other universities in strictly comparable form are entirely lacking.

For the most part the trends studied deal with the later years of the history of the University, particularly the period since the World War. In general, the information for these later years is more easily obtainable, has greater accuracy, and is more nearly complete than the data for the earlier years. Furthermore, it is from a study of these recent trends that the most immediate guidance for future policies may be drawn. In a number of cases, however, it has been feasible to carry the study of trends back to the early years of the twentieth century.

The difficulty of compiling data for some of the items studied has made it necessary to limit the num-

[2] *The University Libraries.*

ber of years for which information is presented. In most cases the data are presented for years at five- or ten-year intervals for a part or all of the period studied. In this manner it is possible to study trends of growth without having available the detailed data for each year of the period included in the study.

The data presented in chapters ii to vi, inclusive, have been assembled in the office of the Recorder. Some of the statistics in chapter vii and all of those in chapter viii were furnished by the Comptroller. Part of the data in chapter vii was provided by the office of the Superintendent of Buildings and Grounds. Every effort has been made to insure accuracy in the information presented, and to this end a very large amount of checking of the original records has been done in the office of the Recorder. In some instances it has been necessary to limit the study because of the lack of reliable data upon which significant comparisons might have been drawn.

The analyses that follow are necessarily statistical in form, presenting the growth of the University in terms of facts and figures. Behind these sometimes forbidding tables of data breathes the spirit of a living and growing University.

CHAPTER II

GROWTH IN ENROLMENTS

This study of growth in enrolments at the University of Chicago traces the trend in number of students enrolled since the year 1903–4. For the earlier part of this period the data are shown only for intervals of five years, since that is sufficient to establish the general trend. For the years since 1918–19 data are shown for each year.

ENROLMENTS BY QUARTERS

Figure 1 shows the number of students enrolled during each of the four quarters and the total number of different students, for each of the years included in this study.[1] In this figure and throughout the entire study the only students included are those registered for class work. Correspondence-study enrolments are not included, but the enrolments in the classes of University College, the down-town center for class instruction, are included.

The curve for the total number of different students indicates that there were steady increases in enrolments up to 1925–26. The year 1918–19 marked a significant change in the rate of increase. During the

[1] Table 45 in the Appendix presents the same data in tabular form.

fifteen years preceding 1918–19 the average annual rate of increase was 5.8 per cent of the 1903–4 enrol-

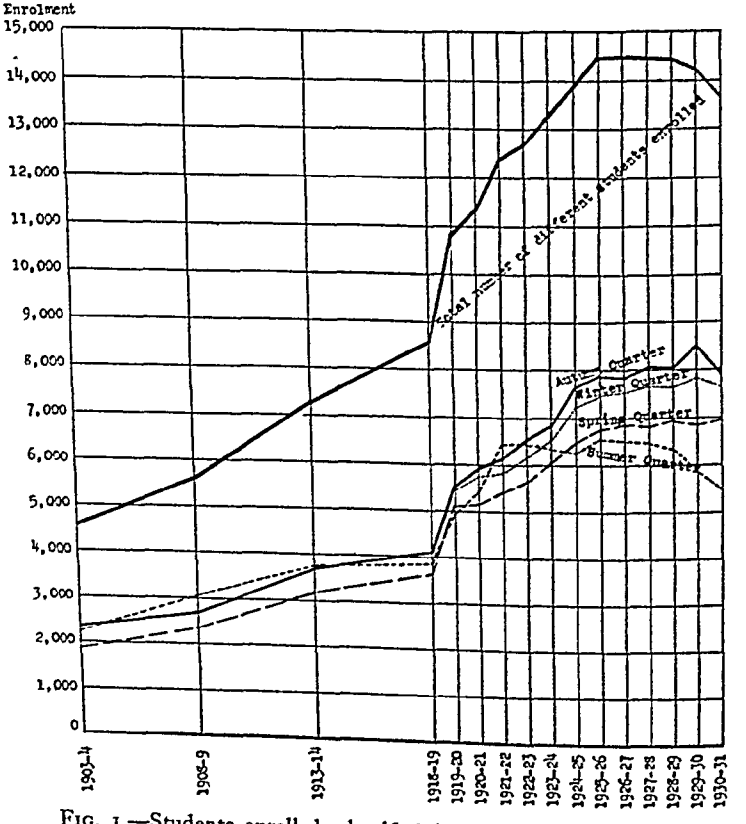


FIG. 1.—Students enrolled, classified by quarters of residence, for selected years from 1903–4 to 1930–31.

ment. From 1918–19 to 1925–26 the average annual rate of increase was 9.8 per cent of the 1918–19 enrol-

ment, or 18.3 per cent of the 1903–4 enrolment. After this relatively rapid increase the curve then levels off on a plateau, indicating approximately constant enrolments from 1925–26 to 1928–29. During the last three years covered by these data (from 1928–29 to 1930–31) the total number of different students enrolled declined somewhat, being in 1930–31 only slightly above the mark established in 1923–24.

The curves for enrolments during each of the four quarters indicate that the Summer Quarter trend was markedly different from that of the other terms, particularly during the past ten years. The three quarters of the regular year all paralleled one another rather closely, the Autumn quarters representing the largest enrolments, the Winter quarters the next largest, and the Spring quarters the smallest. The curve for the Winter quarters is shown only for the years since 1919–20 because it is almost indistinguishable from the curve of the other quarters in the earlier years.

It will be noted that it was only in the last year shown, 1930–31, that any of the three quarters of the regular year showed any pronounced tendency toward a decline in enrolment. The Summer quarters, on the other hand, showed a decline in each of the last eight years shown with the exception of 1925–26. It is evident that it is the behavior of the curve for the Summer quarters that causes the curve for the total number of different students to exhibit first a plateau and then a decline in the years following

1925–26. Even in the last year shown the Autumn Quarter was the only one in which the decline was especially pronounced—in fact, the Spring Quarter had during 1930–31 the highest enrolment ever recorded for this Quarter.

Owing to the fact that the curves for the Autumn, Winter, and Spring quarters are very similar, future tabulations in this chapter do not report each of the quarters separately. Instead, the Autumn Quarter is used as representing the peak-load of regular-year enrolments. The Summer Quarter is analyzed separately because of the manifestly different behavior of the enrolment trend during this Quarter.

AUTUMN AND SUMMER QUARTER ENROLMENTS IN THE COLLEGES AND GRADUATE SCHOOLS OF ARTS, LITERATURE, AND SCIENCE, AND IN THE PROFESSIONAL SCHOOLS

Figure 2 presents data showing the number of students enrolled in selected years, classified according to registration either in the Colleges and Graduate Schools of Arts, Literature, and Science, or in the professional schools.[2] The figure presents separate analyses for the Summer and Autumn quarters, covering the same years as were shown in Figure 1. Duplicate enrolments are excluded in the totals for the University, hence the sum of the enrolments for the Colleges and Graduate Schools of Arts, Literature,

[2] Table 46 in the Appendix presents the same data in tabular form.

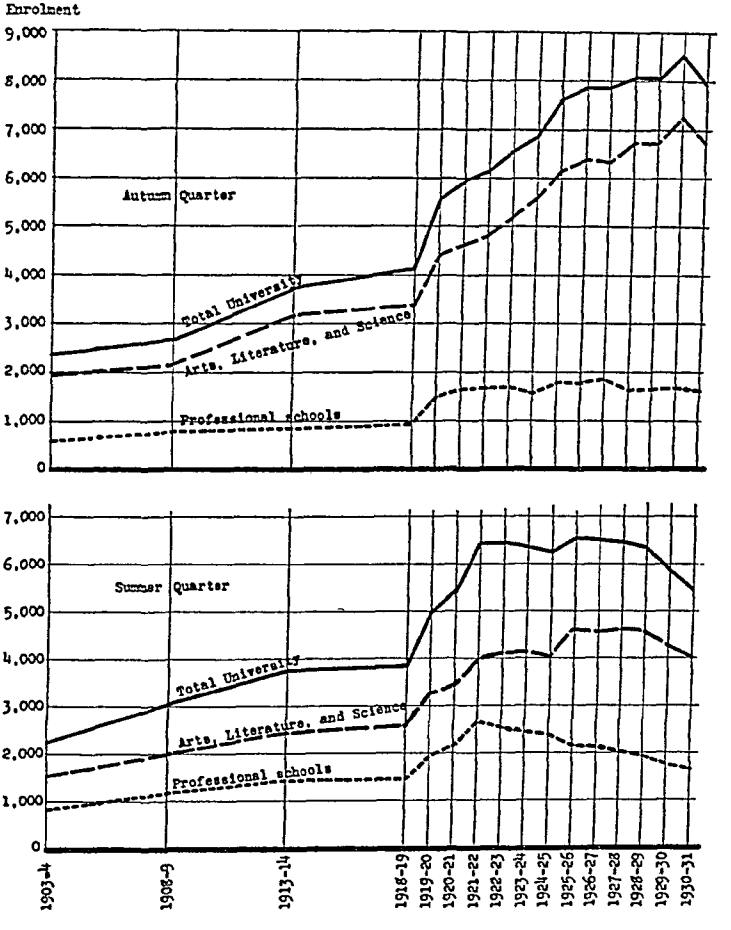


FIG. 2.—Number of students enrolled in the Summer and Autumn quarters, classified under the categories of Arts, Literature, and Science students and professional-school students, for selected years from 1903–4 to 1930–31.

and Science and the professional schools for any year, as given in the figure, is slightly greater than the net total shown for the entire University.

In these data the enrolments in University College were all considered as being in the Colleges and Graduate Schools of Arts, Literature, and Science. Although a very few courses from the professional schools are given in University College, and although a few professional-school students take courses in University College, the records do not permit a separation between these two types of enrolments. The number of professional-school students taking work in University College is so small as to affect the table only negligibly.

During the period covered by this study the College of Education was one of the professional schools of the University but was coextensive with the Department of Education in the Colleges and Graduate Schools of Arts, Literature, and Science. In this study, however, enrolments were counted according to the student's registration or classification, although the student may have been taking courses offered in more than one division of the University. For example, the graduate students in education were counted in the enrolments for the Graduate Schools of Arts, Literature, and Science because they were registered in that division, whereas the undergraduate and unclassified students enrolled in education courses were counted in the enrolments either of the College

of Education (a professional school) or of the Colleges of Arts, Literature, and Science, according to the unit in which they were registered.

The bulk of the Autumn Quarter enrolments have always been in the Colleges and Graduate Schools of Arts, Literature, and Science. For the whole period from 1903–4 to 1930–31 the trend for Arts, Literature, and Science Autumn Quarter enrolments followed closely that for the total enrolments for the same quarter. The rate of increase following 1924–25 did not fall off as much in the Arts, Literature, and Science enrolments as in the total enrolments, but the decline in Autumn Quarter enrolments after 1929–30 was almost entirely in Arts, Literature, and Science.

The professional-school enrolments always comprised a relatively small proportion of the Autumn Quarter total. During the period from 1903–4 to 1918–19 the rate of increase of professional-school Autumn Quarter enrolments was rather constant, and only slightly below that of the Colleges and Graduate Schools of Arts, Literature, and Science. During the year immediately following the close of the World War (1919–20) the professional schools, like the Colleges and Graduate Schools of Arts, Literature, and Science, had relatively large increases in enrolments. The numerical increase of the professional-school Autumn Quarter enrolments during this one year was greater than the total increase of the entire fifteen preceding years. The increase in the professional-

school Autumn Quarter enrolments carried over into the second year following the war, although at a diminished rate. After that time Autumn Quarter enrolments in the professional schools remained practically constant. The actual peak of professional-school Autumn Quarter enrolments was reached in 1926–27, after which time there was a slightly downward trend.

A comparison of the Autumn Quarter enrolments of the Colleges and Graduate Schools of Arts, Literature, and Science with those of the professional schools shows that the latter reached their peak earlier than the former, but that the professional-school enrolments did not show the sharp decline noted for the Colleges and Graduate Schools of Arts, Literature, and Science in 1930–31.

The enrolments in the Colleges and Graduate Schools of Arts, Literature, and Science also comprised the great majority of the total Summer Quarter enrolments, just as they did in the Autumn quarters, although the preponderance was not so great in the Summer as in the Autumn quarters. The trend of enrolments during the Summer quarters in the Colleges and Graduate Schools of Arts, Literature, and Science paralleled rather closely the trend of total enrolments during these quarters.

The curve for the professional-school enrolments in Summer quarters closely parallels that of the total Summer Quarter enrolments up to the year 1921–22.

After 1921–22 the professional-school enrolments in the Summer quarters declined at a surprisingly consistent rate. This curve is distinctly different from any of the other trends indicated in the figure, both because of its steady rate of decline and also because of the comparatively early date at which the decline began. During the last two years shown in the figure the enrolments in the professional schools during the Summer quarters were approximately the same as in the Autumn quarters.

YEARLY ENROLMENTS AT EACH LEVEL

Figure 3 presents an analysis of the total number of different students enrolled in selected years, classified according to the level of registration.[3] The students enrolled in Arts, Literature, and Science are classified according to their status as junior-college, senior-college, graduate-school, or unclassified students. Students enrolled in the professional schools are entered in a single category, which includes enrolments in such schools at all levels. A separate classification is also provided for University College enrolments, which classification includes students in this unit at all levels.

The data of this figure show that there were fundamentally different trends in enrolments after 1918–19 as compared with those before that date. Prior to 1918–19 all classifications on the Quadrangles, except

[3] Table 47 in the Appendix presents the same data in tabular form.

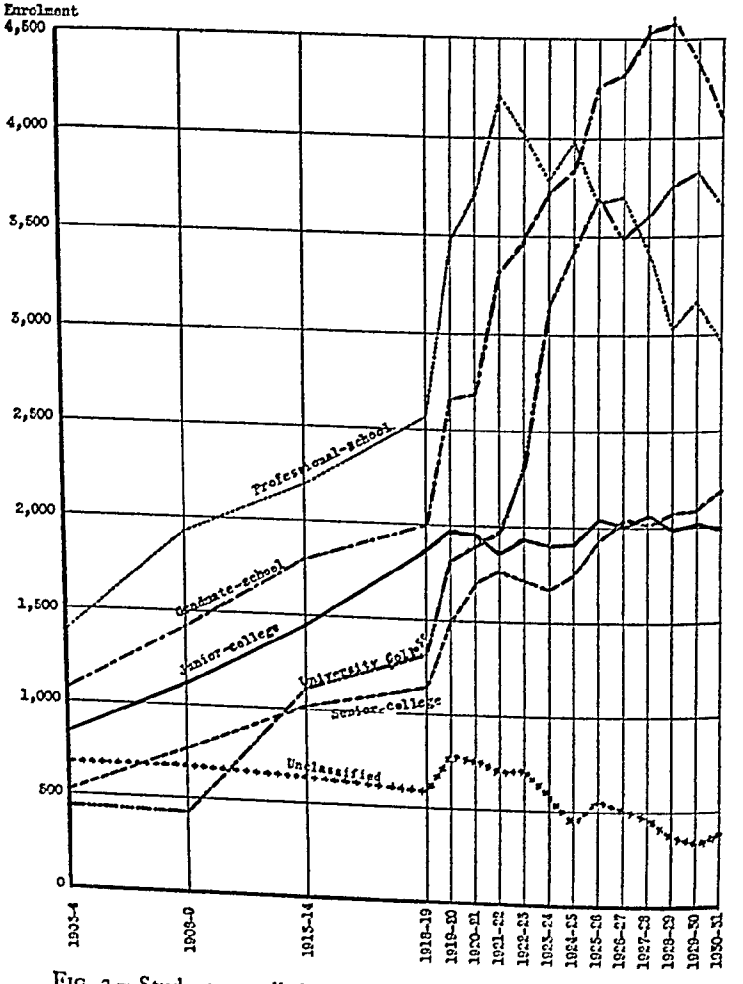


FIG. 3.—Students enrolled, classified as junior-college, senior-college, graduate-school, professional-school, University College, and unclassified students, for selected years from 1903–4 to 1930–31.

unclassified students, were increasing concomitantly. After 1918–19 there were large increases in total enrolments caused partly by increases in the enrolments of the professional schools, University College, and graduate schools, and to a slight extent by increases in senior-college enrolments. The decreases in total enrolments during the last two years represented in Figure 1 were the result of decreases in the enrolments of graduate students, professional-school students, and University College students. The plateau in total enrolments shown in Figure 1 as existing from 1925–26 to 1928–29 was the composite result of decreases in professional-school enrolments and increases in graduate-school enrolments with comparatively constant enrolments in most other classifications.

The trend in graduate-school enrolments is one of the most significant shown in Figure 3. Prior to 1918–19 the graduate-school enrolments were increasing but at a less rapid rate than most of the other classifications. During the next decade increases in graduate-school enrolments were rapid, the peak being reached in 1928–29. The years 1929–30 and 1930–31 showed sharp declines. During the six years from 1925–26 to 1930–31 the graduate-school enrolments were larger than those of any other classification.[4]

In the period from 1903–4 to 1930–31 University

[4] It should be recalled that graduate students enrolled in University College are not classified in this tabulation as graduate students, and that students at the graduate level in the professional schools have been tabulated as professional-school students rather than as graduate students.

College enrolments had the largest numerical growth of any of the classifications. The growth was somewhat irregular and probably reflected changing policies with regard to this type of service. During the four years from 1927–28 to 1930–31 University College enrolments were exceeded only by those of the graduate schools. It must be borne in mind that University College enrolments consist almost exclusively of part-time students. The figures for enrolments in this unit therefore do not represent the same in terms of instructional load as is represented by the data for the other units.

schools. During the four years from 1927–28 to 1930–31 the enrolments in both University College and the graduate schools exceeded those in the professional schools.[5]

The trend in the senior colleges of Arts, Literature, and Science differed from that of all other classifications in the steadiness of its increase. With an average annual increase of sixty-two students, the curve of the twenty-seven-year period does not deviate widely from a straight line. During the period when total enrolments were declining, senior-college enrolments kept on increasing at approximately the same rate as before the war. It is interesting to note that in the three most recent years for which data are presented the senior-college enrolments exceeded those of the junior college.

The trend of junior-college enrolments in Arts, Literature, and Science was also distinctly different from that of all the other classifications. Prior to 1918–19 the junior-college enrolments were increasing more rapidly than those of any other classification except University College. In 1919–20 the increase terminated abruptly, after which junior-college en-

[5] A part of the decrease in the professional-school enrolments in recent years was due to the policy of discontinuing or limiting the undergraduate curriculum in such schools. Thus some students who have lately been classified as junior-college or senior-college students in Arts, Literature, and Science, would in earlier years have been classified as professional-school students. It should also be noted that during the years when the professional-school enrolments were decreasing, the offering of professional-school courses in University College was increasing.

rolments remained at a practically constant level. The policy of limiting the number of entering freshmen to 750 was formally adopted in 1928. It will be noted that the junior college is the only classification in which enrolments were not affected to some appreciable extent by the post-war expansion. It will be noted also that there were no important decreases in junior-college enrolments in recent years. Although the peak in the junior-college curve was reached in 1927–28, in the enrolment in 1930–31 there were only 62 students fewer than at the maximum.

The relatively constant increases in senior-college enrolments after 1919–20 in the face of the stabilized enrolments of junior-college students seems at first somewhat paradoxical. It would ordinarily be expected that, since students must progress from the junior college to the senior college, a failure to show enrolment increases in the junior college would be accompanied by a corresponding stabilization in the senior-college enrolments. The explanation lies in the larger number of students transferring at the upper level from other institutions.

Enrolments of unclassified students steadily decreased. Immediately following the war there was a small increase in the number of unclassified students, but this was followed by an even more rapid rate of decrease than formerly. The decrease in the number of unclassified students was undoubtedly brought about in part by the increase of public high-school

facilities, which made it less necessary for students of irregular standing to appear at the University. There was also at the same time a considerable amount of pressure by the University upon students to regularize their classification, and the academic standing of the unclassified student depreciated.

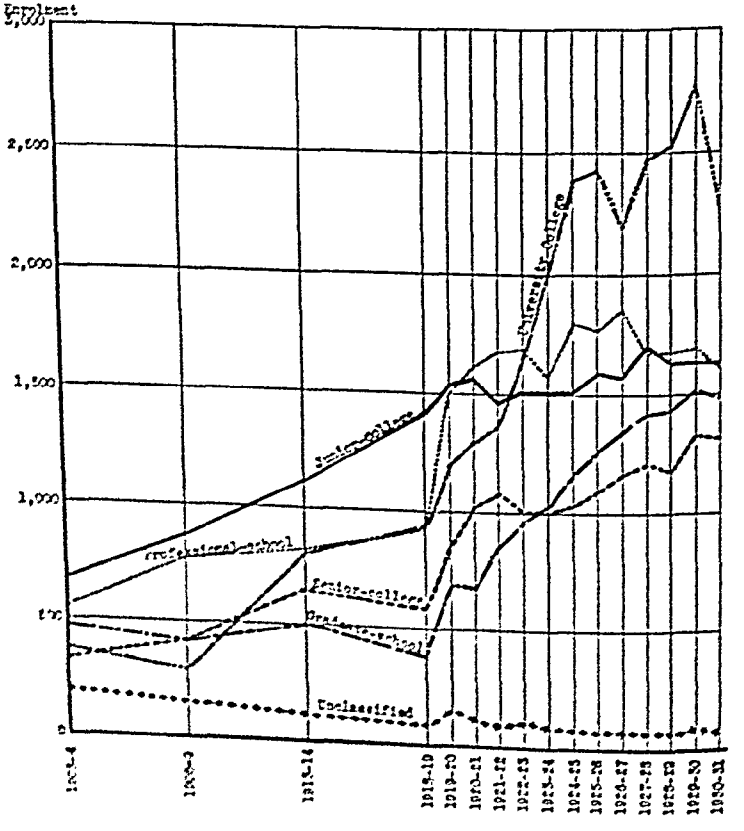
AUTUMN QUARTER ENROLMENTS AT EACH LEVEL

Figure 4 gives a graphic presentation of the Autumn Quarter enrolments of junior-college, senior-college, graduate-school, professional-school, University College, and unclassified students.[6] The curves are similar to those for the Autumn quarters in Figure 2 except that the enrolments in the Colleges and Graduate Schools of Arts, Literature, and Science are subdivided into junior-college, senior-college, graduate-school, University College, and unclassified enrolments. The curves for the Autumn Quarter enrolments in the professional schools are identical in Figure 2 and Figure 4, but the two figures are drawn on different scales.

A comparison of Figure 4 with Figure 3 shows that enrolment trends for the Autumn quarters were similar to those for the entire year, with the exception of those for the graduate schools. Graduate-school enrolments in the Autumn quarters moved irregularly from 1903–4 to 1918–19 with a general tendency to decrease slightly. In the case of total yearly enrol-

[6] Table 48 in the Appendix presents the same data in tabular form.

ments there was no decrease in the graduate schools until 1929–30. There was a rapid increase in graduate-school enrolments for both the Autumn Quarter and



the entire year after 1918–19, but the curve for the Autumn Quarter shows a tendency to flatten out during the three years from 1928–29 to 1930–31, while that for the entire year took a decided drop during the same period.

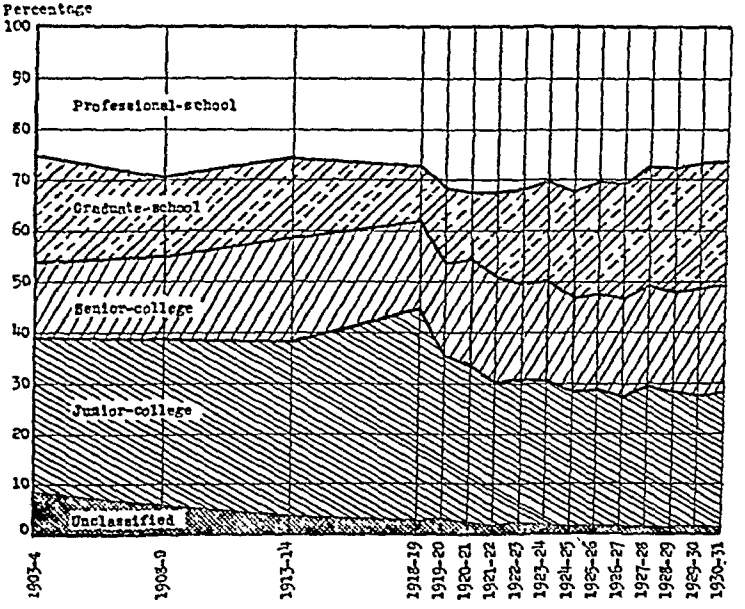


FIG. 5.—Composition of student body on the Quadrangles during Autumn quarters, for selected years from 1903–4 to 1930–31. Percentage of total number of students classified as junior-college, senior-college, graduate-school, professional-school, and unclassified students.

Figure 5 presents graphically an analysis of the Autumn Quarter enrolments on the Quadrangles showing the percentage of the total student body classified ac-

cording to enrolments in the professional schools, graduate schools, senior college, junior college, and unclassified.[7] University College students are omitted in the analysis. In the data for this figure the sum of the enrolments of the various classifications is reckoned as 100 per cent and the enrolments of each classification are then expressed as the appropriate percentage of the total.

It will be noted from this figure that the four classifications—professional schools, graduate schools, senior college, and junior college—during the entire period were represented by substantial percentages of the student body on the Quadrangles during the Autumn quarters. Unclassified students steadily diminished in relative importance until in the later years they formed a negligible proportion of the whole student body. In the later years shown in Figure 5 professional-school enrolments and junior-college enrolments formed diminishing percentages of the entire student body, while the graduate-school enrolments and the senior-college enrolments formed increasing percentages of total Autumn Quarter enrolments on the Quadrangles.

SUMMER QUARTER ENROLMENTS AT EACH LEVEL

Figure 6 presents graphically an analysis of the Summer Quarter enrolments according to the classifications of junior-college, senior-college, graduate-

[7] Table 49 in the Appendix presents the same data in tabular form.

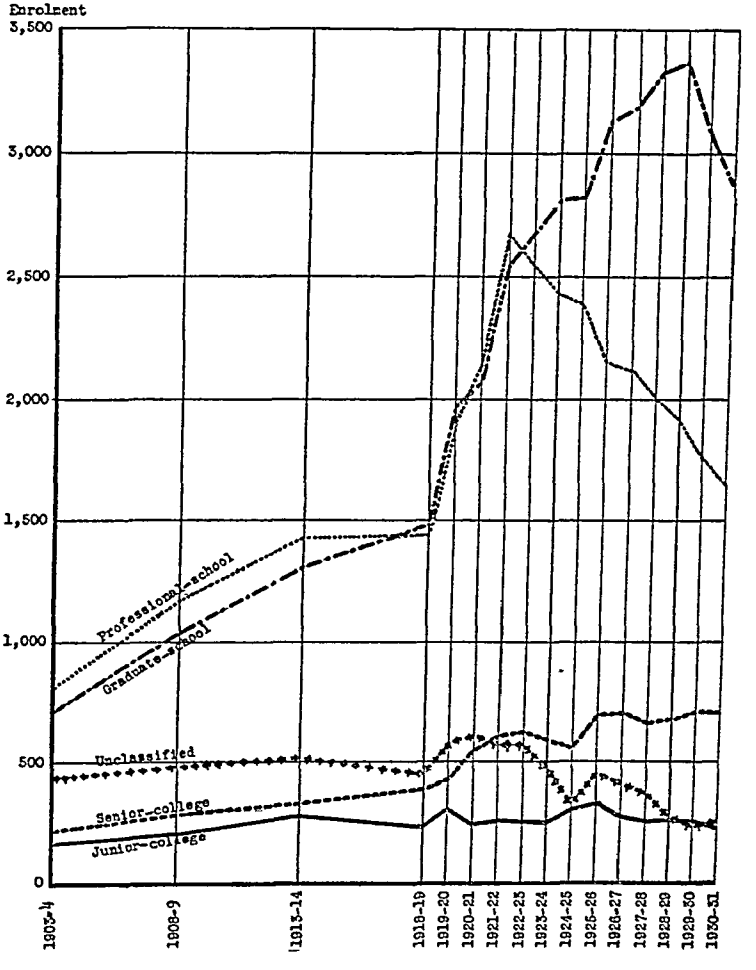


FIG. 6.—Summer Quarter enrolments of junior-college, senior-college, graduate-school, professional-school, and unclassified students, for selected years from 1903–4 to 1930–31.

school, professional-school, and unclassified students for the years covered in the study.[8] This figure presents the trends of Summer Quarter enrolments in the same way that Figure 4 dealt with the Autumn Quarter enrolments.

It will be noted from these data that the Summer Quarter enrolments were made up principally of two groups, the graduate students and the professional-school students. The numbers of junior-college, senior-college, and unclassified students were relatively small. No University College classes were maintained in the Summer quarters during the period covered by this study.

The total of undergraduate students in Arts, Literature, and Science (senior-college and junior-college) and of unclassified students in the Summer quarters did not increase much over the entire period represented. Enrolments of unclassified students showed an irregular trend, but the net result was a decrease over the entire period, the peak being reached in 1920–21.

The curves of enrolments of graduate students and professional-school students in the Summer quarters are almost identical up to 1921–22. Two distinct phases are noted in these curves from 1903–4 to 1921–22. The first phase is a gradual and regular increase up to 1918–19; the second phase, which occupied the three years following 1918–19, is one of very rapid in-

[8] Table 50 in the Appendix presents the same data in tabular form.

creases. From 1921–22 on, the two enrolment curves diverge sharply, that for the graduate schools showing two distinct stages, while that for the professional schools has only one. The professional-school enrolments steadily declined after 1921–22. In the graduate-school enrolments, however, the increase continued after 1921–22 up to 1928–29, although at a somewhat slower rate than from 1918–19 to 1921–22. After reaching the peak of Summer Quarter enrolments in 1928–29, the number of graduate students declined rather rapidly.

Figure 7 gives a graphic presentation of the same data used for the preceding figure translated into terms of percentages.[9] This figure represents the trends in the Summer Quarter enrolments in the same way that Figure 5 represented the Autumn Quarter enrolments.

It is clear from Figure 7 that the professional-school and graduate-school enrolments comprised from approximately two-thirds to four-fifths of the students in the Summer quarters during the period studied. The slight changes in numerical importance of the junior-college and senior-college enrolments over the twenty-seven-year period are somewhat obscured by the small size of the percentage figures. Actually, the senior college increased its percentage by one-third, while the junior college decreased a little more than one-third in the percentage which its enrolments were

[9] Table 51 in the Appendix presents the same data in tabular form.

of the total Summer Quarter enrolments. The marked decrease in the relative numerical importance of the unclassified students may be clearly observed.

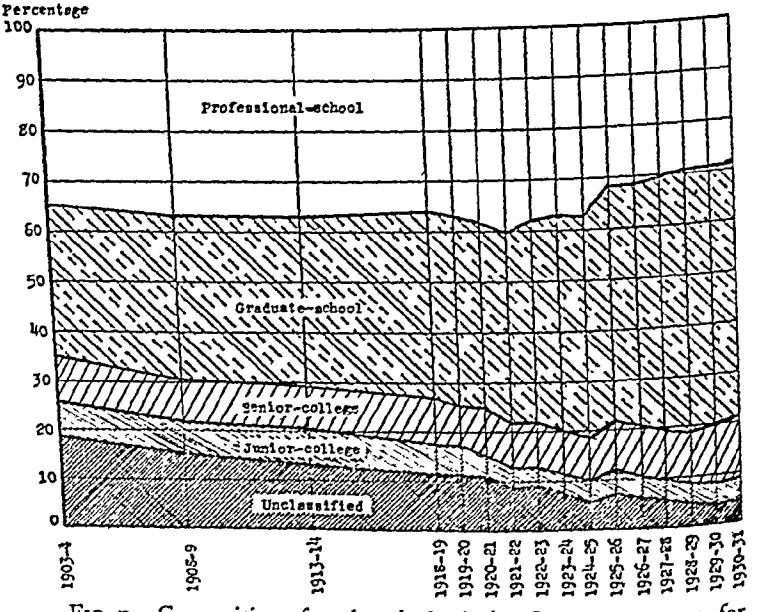


FIG. 7.—Composition of student body during Summer quarters, for selected years from 1903–4 to 1930–31. Percentage of total number of students classified as junior-college, senior-college, graduate-school, professional-school, and unclassified students.

COMPARISONS OF AUTUMN QUARTER, SUMMER QUARTER, AND TOTAL DIFFERENT STUDENTS IN JUNIOR COLLEGE, SENIOR COLLEGE, GRADUATE SCHOOLS, AND PROFESSIONAL SCHOOLS

For purposes of comparison the several curves shown in preceding figures for junior-college, senior-

college, graduate-school, and professional-school enrolments are grouped together and shown in Figure 8. For each of these classifications comparative trends are shown for the entire number of different students enrolled during four quarters and for the Autumn Quarter and the Summer Quarter enrolments.

The figure shows that the junior-college enrolments during the Summer quarters were negligible compared with the Autumn Quarter enrolments. The curves of junior-college enrolments for these two quarters are distinctly different. The senior-college enrolments were also smaller during the Summer than during the Autumn quarters, but the trends of enrolments were generally the same for both quarters.

The graduate-school enrolments in the Summer quarters were more than double those in the Autumn quarters. The trends in the Autumn and Summer quarters were divergent up to 1918–19. After that time they were similar during the two quarters, but the Summer quarters had a much greater numerical increase.

The enrolments of the professional schools also were larger in the Summer quarters than in the Autumn quarters, but during the two years 1929–30 and 1930–31 the difference was not great. The trend of the two quarters was similar up to 1920–21. At that time the Autumn Quarter enrolments leveled off on a plateau and remained approximately constant; the Summer Quarter enrolments increased sharply for one

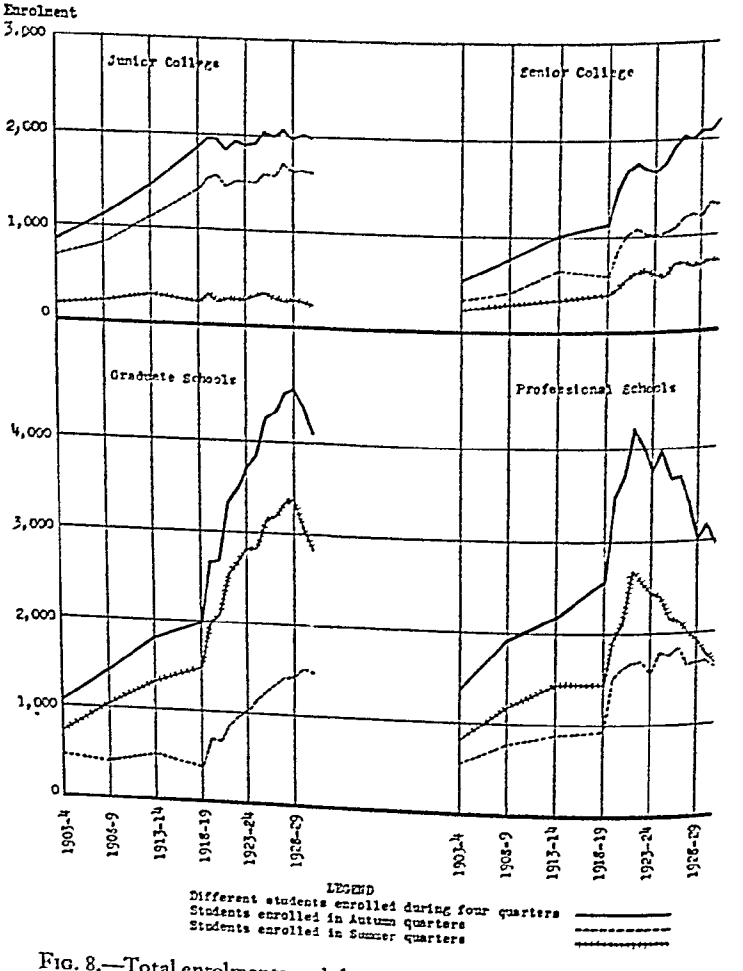


FIG. 8.—Total enrolments and Autumn Quarter and Summer Quarter enrolments of junior-college, senior-college, graduate-school, and professional-school students, for selected years from 1903–4 to 1930–31.

additional year after 1920–21 and then began a steady decline.

AUTUMN QUARTER ENROLMENTS IN THE VARIOUS GRADUATE AND PROFESSIONAL SCHOOLS

Figure 9 presents a series of charts in which the trends of enrolments for each of the graduate schools are compared with the trend in the total graduate-school enrolments, and the trends in each of the several professional schools are compared with the total professional-school enrolments for the Autumn quarters.[10]

The Autumn Quarter enrolments of the Graduate School of Arts and Literature were tending to decrease prior to the year 1918–19. The Autumn Quarter enrolments of the Ogden Graduate School of Science were increasing slightly during this period, although there was a drop between 1913–14 and 1918–19. After 1918–19 the enrolments of the Graduate School of Arts and Literature increased more rapidly than those of the Ogden Graduate School of Science, although the two schools at no time differed widely in their Autumn Quarter enrolments.

The series of charts dealing with the several professional-school enrolments show that the curve for the total professional-school enrolments is a resultant

[10] Table 52 in the Appendix presents in tabular form the Autumn Quarter enrolments in the two graduate schools and in the several professional schools separately.

of many factors. Prior to 1918–19 the enrolments of most of the professional schools were increasing, the

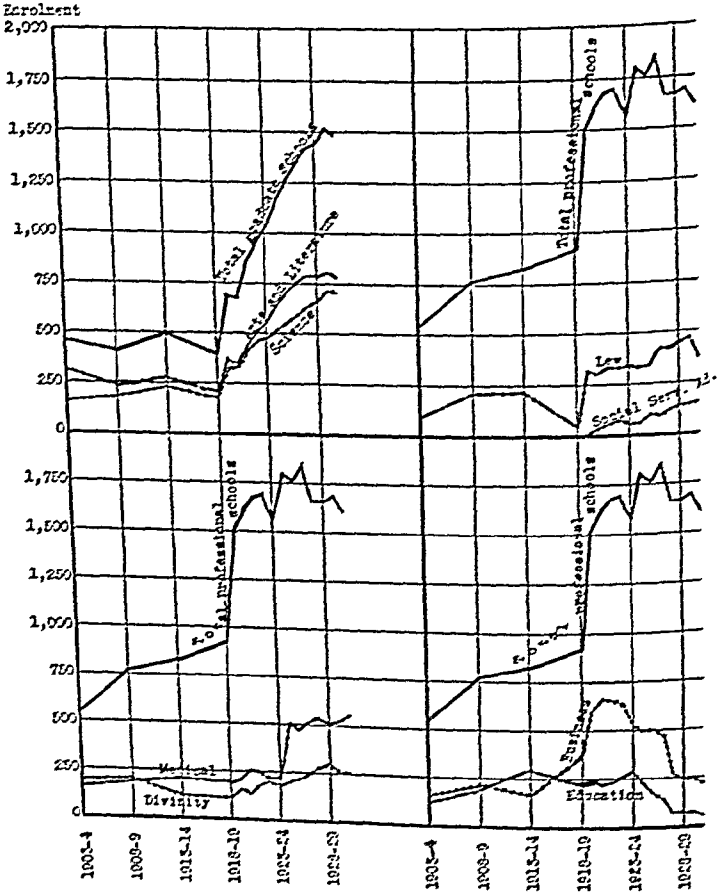


FIG. 9.—Trends of Autumn Quarter enrolments from 1903–4 to 1930–31 in various graduate and professional schools.

result being an increasing total enrolment. The exceptions to this trend were the Law School and the College of Education from 1913–14 to 1918–19, the School of Business[11] from 1908–9 to 1913–14, and the Divinity School from 1908–9 to 1918–19. Several factors affected the trend of professional-school enrolments since the war. The School of Social Service Administration was developed after 1918–19. The medical schools and the Law School increased their enrolments rather markedly after 1918–19. Counterbalancing factors were the large decreases in the College of Education enrolments during the Autumn quarters after 1923–24, and also decreases in the School of Business following 1921–22. As a result of all these separate movements, the trend over the period in total professional-school enrolments in the Autumn quarters was very irregular, but the net result was almost no change during the past ten years. The curve for the Autumn Quarter enrolments in the medical schools shows a sharp increase between 1924–25 and 1925–26. This was the result of the taking over of Rush Medical College.

One of the striking movements shown in the figures is that of the enrolments in the School of Business. The large expansion in the enrolments in this School immediately following the war were partly the result of the registration of Veterans' Bureau trainees, who

[11] This was formerly called the School of Commerce and Administration.

were sent to the University for rehabilitation training. The withdrawal of this group of students upon completion of their training resulted in a decline in enrolments. In 1926 the School of Business surrendered control of junior-college work. This resulted in another sharp decline in the enrolments of this School.

Enrolments in the Law School showed a marked irregularity at the war-time period. Since almost all the students in this School are men, it was natural that enrolments should be greatly reduced during the time a large number of potential students were in military service. With the exception of this one irregularity, the movement of enrolments in the Law School indicated a rather steady increase. The year 1930–31, however, showed a marked departure from the general trend, the decrease having been larger than at any similar period covered by the chart.

Enrolments in the Divinity School moved irregularly. Prior to 1918–19 enrolments were decreasing. After that time there was an increase which almost trebled the total enrolment. The peak was reached in 1928–29, after which time there was a slight decline.

The trend in the College of Education after 1923–24 was sharply downward. This unit was discontinued beginning with 1931–32, and the downward trend in enrolments reflected the general University policy which was looking forward to the discontinuance of the College of Education. Students who formerly would have registered in the College of Education are

now considered as a part of the enrolment in Arts, Literature, and Science.

SUMMER QUARTER ENROLMENTS IN THE VARIOUS GRADUATE AND PROFESSIONAL SCHOOLS

Figure 10 presents a series of charts which compare the trends of Summer Quarter enrolments in the two graduate schools with that of the total graduate-school enrolments and the trends in each of the several professional schools with that of the total professional-school enrolments.[12]

These data show clearly that during the Summer quarters the Graduate School of Arts and Literature enrolled the bulk of the graduate students. The trend of enrolments in the Graduate School of Arts and Literature closely paralleled that of the total graduate enrolments in the Summer quarters. In this School enrolments increased steadily and rather consistently up to 1928–29, but after that time there was a decline. In the Ogden Graduate School of Science enrolments during the Summer quarters were practically constant from 1908–9 to 1918–19. For the next four years there was a rapid increase in enrolments, the total number of students more than doubling in this period. After 1922–23 enrolments in the Ogden Graduate School of Science were practically constant with a very slight general tendency toward a decline.

[12] Table 53 in the Appendix presents in tabular form the Summer Quarter enrolments in the two graduate schools and in the several professional schools separately.

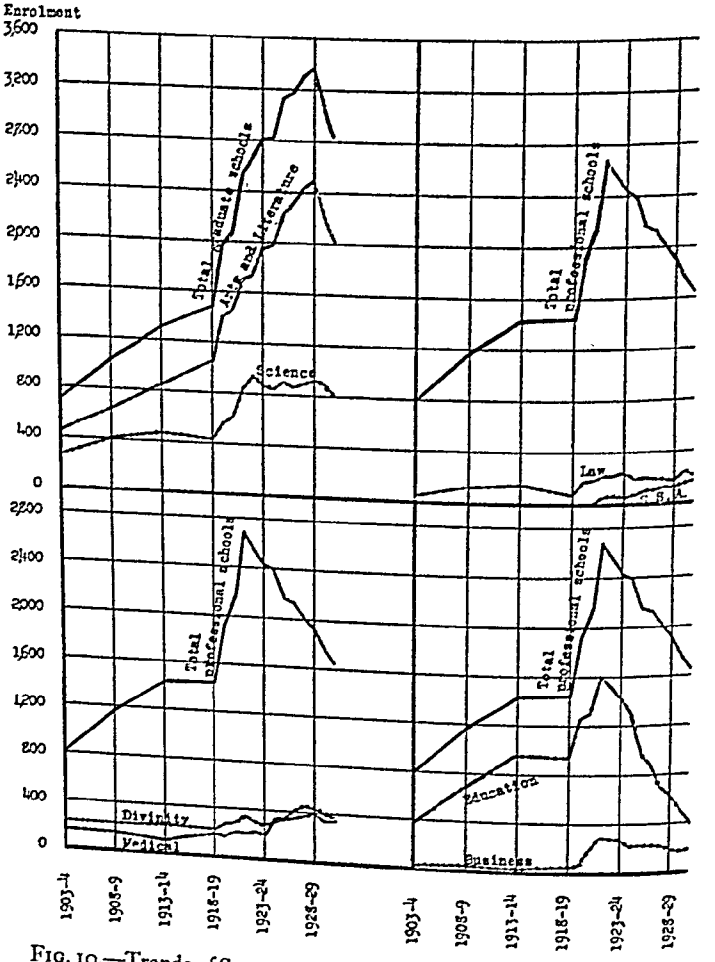


FIG. 10.—Trends of Summer Quarter enrolments from 1903–4 to 1930–31 in various graduate and professional schools.

As is indicated in Figure 10 the enrolments in all the professional schools, except the College of Education, were relatively small during the Summer quarters. The figure shows in striking fashion the very important relationship between the total professional-school enrolments and the enrolments in the College of Education during the Summer quarters. The recent declines in Summer Quarter enrolments in the professional schools were almost wholly the result of the decline in the College of Education. When the College of Education enrolments are excluded, professional-school enrolments in the Summer quarters show only a very slight decline from the peak reached in 1927–28. The decline in the College of Education enrolments has reflected the deliberate policy of the University to discontinue this unit. It appears probable, therefore, that the trend of total Summer Quarter professional-school enrolments may change markedly from 1931 on owing to the removal of the influence of the College of Education.

AUTUMN AND SUMMER QUARTER ENROLMENTS, CLASSIFIED BY SEX

Figure 11 gives a graphic presentation of data showing the total enrolments of the University and the Summer and Autumn Quarter enrolments, classified by sex, for selected years from 1903–4 to 1930–31.[13]

[13] Table 54 in the Appendix presents the same data in tabular form.

Figure 11 shows that the war-time conditions affected the enrolment of men students somewhat but that, aside from this irregularity, the trends in enrolments of the two sexes were rather closely parallel. In recent years the decline in enrolments was somewhat

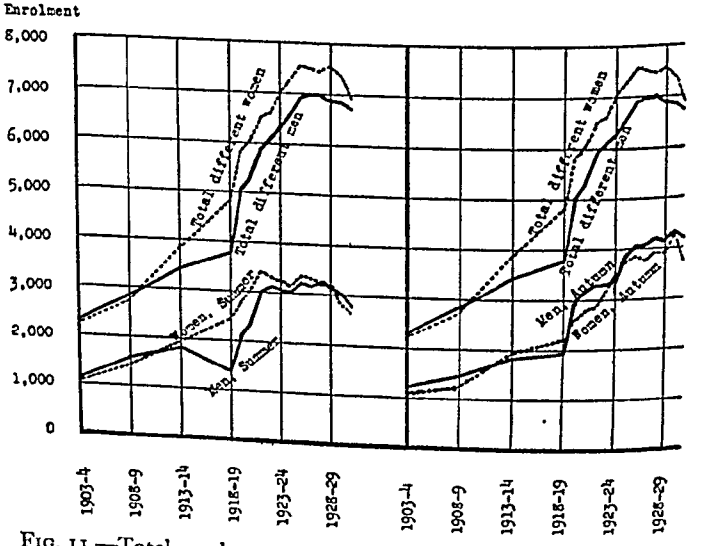


FIG. 11.—Total enrolments and Autumn Quarter and Summer Quarter enrolments of men and women, for selected years from 1903–4 to 1930–31.

more pronounced among women students than among men.

There is an apparent paradox in the data for the years after 1927–28, owing to the fact that there were more women than men in the total number of different students but there were more men than women in

both the Summer and Autumn Quarter enrolments. This is explained by the fact that a larger number of women than of men enrol for only one quarter.

AUTUMN QUARTER ENROLMENTS, CLASSIFIED BY SEX AND BY LEVEL

Figure 12 presents a graphic analysis of the Autumn Quarter enrolments of men and women students classified as junior-college, senior-college, graduate-school, professional-school, University College, and unclassified students.[14] The curves for enrolments of men and women in each type of classification are compared separately.

It will be noted from these data that the men predominated in the Autumn Quarter enrolments in all the classifications except University College and unclassified students. The latter group was negligible in size.

It is interesting to note the rapidity of the growth of enrolments of men in the graduate schools as compared with those of women. The graduate enrolments of men is the only curve in the chart that does not show a tendency to decline at some time during the last four or five years represented in the figure.

University College was the only classification in which there were consistently more women than men enrolled. For most of the years shown there were three or four times as many women as men enrolled

[14] Table 55 in the Appendix presents the same data in tabular form.

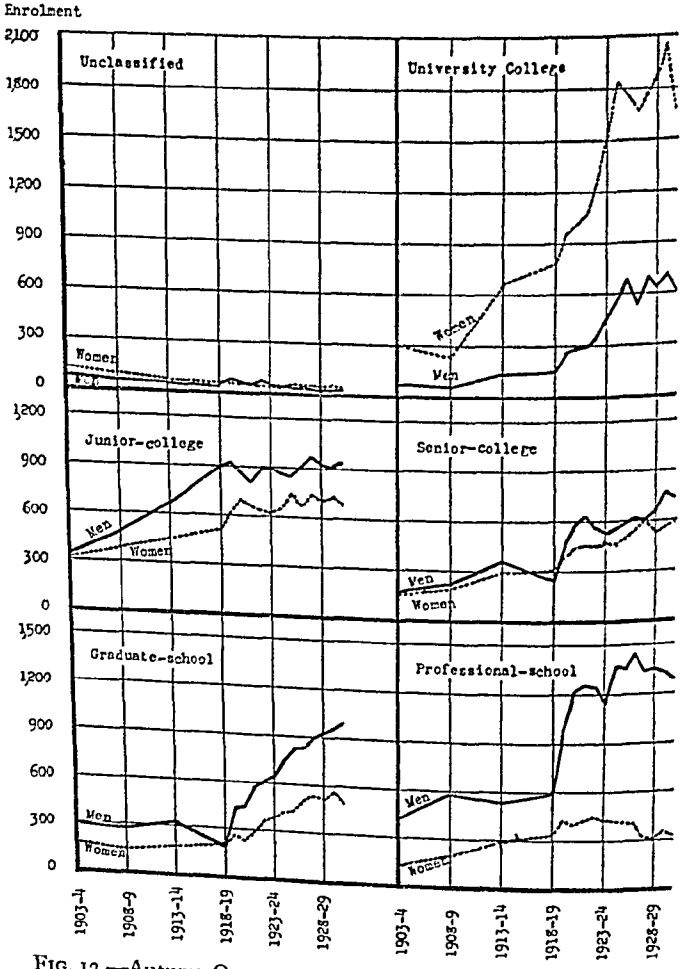


FIG. 12.—Autumn Quarter enrolments of men and women classified as junior-college, senior-college, graduate-school, professional-school, University College, and unclassified students, for selected years from 1903–4 to 1930–31.

in University College. The presence of a large number of city school teachers in University College doubtless explains this fact. The rapid increase of enrolments of women students up to 1929–30 in University College and the correspondingly rapid decline after that date are striking features of the charts.

Men were greatly in the majority in the Autumn Quarter enrolments in the professional schools during the period covered by these data. A very striking trend was the growth of the enrolments of men during the post-war period. The decrease in numbers of women enrolled in professional schools in recent years is accounted for by the falling off of enrolments in the School of Education. Recent decreases in the number of men enrolled in the professional schools are principally accounted for by decreases in the enrolments in the School of Business.

SUMMER QUARTER ENROLMENTS, CLASSIFIED BY SEX AND BY LEVEL

Figure 13 presents graphically the same data for the Summer quarters as were shown for the Autumn quarters in Figure 12.[15] Prior to the Summer Quarter of 1931 University College did not maintain a session during the Summer Quarter.

It will be observed from these data that junior-college and senior-college enrolments were always rela-

[15] Table 56 in the Appendix presents in tabular form the Summer Quarter enrolments of men and women.

tively small in the Summer quarters. In recent summers there were more women students than men students in both the junior and senior colleges.

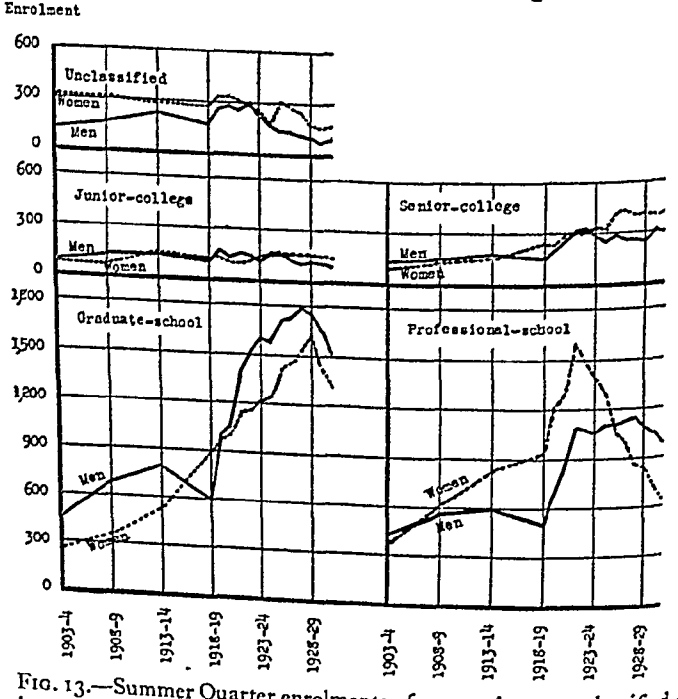


FIG. 13.—Summer Quarter enrolments of men and women classified as junior-college, senior-college, graduate-school, professional-school, University College, and unclassified students, for selected years from 1903–4 to 1930–31.

In the graduate-school enrolments during the Summer quarters, the men always exceeded the women in numbers except during the year 1918–19 when the war affected the enrolments of men students. Except

for this one irregularity, the curves for enrolments of men and women in the graduate schools tend to parallel each other.

The curves for enrolments of men and women students in the professional schools during the Summer quarters are strikingly different. Prior to 1921–22 the enrolments of women in the professional schools were increasing very rapidly during the Summer quarters; after that date the decline was equally rapid. Enrolments of men also increased sharply for three years following the war, the increase being at a somewhat more rapid rate than that for women, although the total enrolments of women in the professional schools exceeded those of men. After 1921–22 the enrolments of men in the professional schools struck a plateau, with a tendency to decrease slightly during the three years from 1928–29 to 1930–31. Enrolments of women in the professional schools exceeded those for men from 1908–9 to 1924–25. From 1925–26 on, the enrolments of men were greater than those of women. Figure 13 shows that the marked decline in total professional-school enrolments during recent years in the Summer quarters, as indicated in Figures 6 and 7, was due almost wholly to a falling off of women students. The discontinuance of the College of Education was partly responsible for this decrease, since a large proportion of the students in this unit were women.

There was a rather consistent tendency for the enrolments of unclassified women to exceed those of un-

classified men. In recent years the enrolments of unclassified men and women both tended to decrease.

COMPARISON BETWEEN ENROLMENT TRENDS OF THE TWO SEXES

The data from which Figures 12 and 13 were developed[16] offer possibilities of an interesting study of trends in enrolments for the two sexes. A statistical calculation of the coefficient of correlation for the yearly changes of enrolments of the two sexes during the Autumn quarters in all types of classifications combined (omitting unclassified students) yields a figure of $+.32 \pm .08$. This low correlation indicates a lack of consistency between the two sexes in the rate at which enrolments in the various schools change. For the Summer quarters, however, the correlation is considerably higher, the figure being $+.63 \pm .06$. In other words, the changes in number of students enrolled in the various classifications from one year to the next are much more nearly alike for the two sexes in the Summer quarters than in the Autumn quarters; but even in the Summer quarters the correlation is not particularly high. The comparison made above is based upon the numerical change in enrolments; the comparison may also be based upon the percentage of change from the previous year's enrolment. Correlations between enrolment changes of men and women in the various classifications on this basis for the Au-

[16] See Tables 55 and 56 in the Appendix.

tumn quarters yield a coefficient of $+.57 \pm .06$. For the Summer quarters the correlation between percentage of change in the enrolments of men and women is $+.42 \pm .08$.

The study of these correlations indicates clearly that, whatever the factors are which bring about changes in enrolments, they are different for the two sexes. If the factors were the same, it would be expected that a much higher correlation would be present than the data indicate.

PREDICTION OF FUTURE ENROLMENT TRENDS

One of the common uses of a study of trends is for the purpose of predicting the future. The charts that have been presented in this study of enrolment trends at the University of Chicago do not afford a satisfactory basis for prediction. The curves themselves are, for the most part, so irregular that it would not be possible to project them accurately into the future as the basis of a prediction. In one or two cases where the forms of the curves, particularly in recent years, lend themselves to such a projection, the conclusion reached by such treatment is absurd. For example, the enrolments in the professional schools during the Summer Quarter, on the basis of the projection of the present curve, would reach zero at about 1945.

The analysis which has been made by sex and by classification and the somewhat finer analysis by the separate professional and graduate schools indicate

that the trend for total enrolments is a composite of so many separate movements that the difficulty of prediction is greatly increased. Furthermore, there are numerous factors, both within and without the institution, which affect the enrolments in any one of the divisions of the University and which cannot be predicted from a study of previous trends. As examples of factors within the institution may be cited: (1) changes in admission requirements, (2) changes in requirements for degrees, (3) changes in tuition fees, (4) the discontinuance or establishment of entire units of the University, (5) changes in emphasis on the publicity program, and (6) increasing eminence of faculty members in certain fields. As examples of outside forces which affect enrolments may be mentioned: (1) general economic conditions; (2) establishment, growth, or decline of other institutions in the territory; (3) demand and supply in vocations for which the University prepares; and (4) number of high-school graduates. No study has ever been made to show the precise effect of factors such as those mentioned above, either singly or conjointly. Such a study would demand a larger body of data than has been gathered for the purposes of this present survey. The next section attempts a preliminary analysis of the effects of changes in fees on enrolment trends.

INCREASES IN FEES AND ENROLMENT CHANGES

There is some evidence that increase in fees has been associated with changes in enrolments in certain

of the classifications. Table 1 presents data showing the average change in enrolments in those years in

TABLE 1

AVERAGE CHANGES IN NUMBER OF STUDENTS ENROLLED DURING THE AUTUMN QUARTERS FROM 1918–19 TO 1930–31 FOR YEARS IN WHICH THERE WERE NO CHANGES IN FEES AND FOR YEARS IN WHICH FEES WERE INCREASED

Enrolments Of	Average Change in Enrolments for Years in Which There Were No Changes in Fees	Average Changes in Enrolments for Years in Which There Were Increases in Fees
All graduate students	+128.4	+ 21.0
Students in the Graduate School of Arts and Literature	+ 69.5	+ 6.0
Students in the Ogden Graduate School of Science	+ 58.9	+ 15.0
Men in the graduate schools	+ 84.8	+ 32.8
Women in the graduate schools	+ 43.6	− 11.8
All junior-college students	+ 9.1	+ 35.3
Men in the junior college	− 5.3	+ 17.5
Women in the junior college	+ 14.4	+ 17.8
All senior-college students	+ 55.1	+ 73.5
Men in the senior college	+ 45.1	+ 32.0
Women in the senior college	+ 10.0	+ 41.5
Junior- and senior-college students combined	+ 64.2	+108.8
All unclassified students	+ 5.9	− 16.5
Men, unclassified	+ 4.0	− 8.7
Women, unclassified	+ 1.9	− 7.8
Students in the Divinity School	+ 16.4	+ 3.3
Students in the Law School	+ 15.8	− 0.7
Students in the School of Business	− 8.6	− 22.0
Students in College of Education	− 9.4	− 23.0

which there were increases in fees. This study covers only the period beginning with 1918–19.

The table shows that on the average the years in which there were increases in fees tended to be those in which the enrolments, both in the graduate schools and the professional schools, showed either smaller increases or larger decreases than the average for those years in which the fees remained unchanged. The unclassified students, who formed a numerically small group, showed the same general tendency. Exactly the opposite condition obtained in the cases of the junior- and senior-college enrolments, the average increase in enrolment quite generally being larger in the years in which fees were increased than in the years when no change was made in the fees. The detailed data for the graduate enrolments indicate also a relationship between the amount of the increase in fees and the size of the change in enrolments—the larger the increase in fees, the smaller the average increase in enrolments of graduate students. The general conclusion that may be drawn from this study is that increases in fees tend to accompany reductions in the rate of increase in enrolments in the graduate schools and the professional schools; the relationship in the junior and senior colleges is exactly the opposite.

The study of the effect upon enrolments of changes in fees must be interpreted with considerable caution because of the small number of years covered by the study. The attempt has been made to overcome this difficulty by increasing the number of categories un-

der which the data have been analyzed. It is important to note the consistency with which the trends appear in graduate enrolments, for example, whether analyzed by sex or by registration in the two graduate schools.

Another reason for caution in drawing conclusions from this study is the variety of factors other than changes in fees that can affect enrolments. It is probable that a change in fees when coupled with some other circumstances, for example, an economic depression, may have a pronounced influence upon the enrolment trend. On the other hand, a change in fees accompanied by a limitation of enrolment would clearly not have an important effect upon enrolment trends.

CHAPTER III

GROWTH IN STUDENT-MAJORS OF REGISTRATION

This chapter traces the growth in number of student-majors over a period of twenty years. The unit, student-major, means one student enrolled in a course for which 1 major of credit[1] is received. Thus a class of twenty students enrolled in a major course would produce twenty student-majors. This unit furnishes a more exact measure of the carrying load of the University than is provided by the enrolment data presented in the preceding section, as some of the students counted as units of enrolment do not take the full normal load of course work. Furthermore, statistics of student enrolments are not applicable to departments, but only to the larger organization units,

[1] At the time these data were collected, the unit of academic credit at the University of Chicago was the "major," which consisted of a course throughout a quarter, occupying normally one-third of a student's time. The typical full-time student took 3 majors per quarter, or a total of 9 majors during the regular academic year. The major was thus equivalent to three and one-third semester hours or five quarter hours. A few courses were given which carried only ½ major of credit (usually known as a "minor"), a few others carried 2 majors of credit (known as a double-major), and some carried other credit values; but the great majority of all courses given by the University carried 1 major of credit. A recent action of the University Senate has substituted the "course" for the "major" as the instructional unit at all levels.

such as schools and colleges. Because of the widespread practice of allowing students registered in one school or college to carry courses in other divisions of the University, enrolment statistics are not a trustworthy indication of the student load carried in the various units. An analysis in terms of student-majors permits a much more exact accounting of the total load in the various departments, schools, and colleges than is afforded by any other type of registration statistics.[2]

SOURCES OF DATA

For many years there has been kept in the University a record known as the Deans' Reports. In this record, which is made up and filed in the office of the Registrar, are listed each quarter all the courses taught in the University, classified according to departments and instructors, with the catalogue name and number of the course and the number of students registered in each course and class section. The data for this study of student-majors have been drawn from the Deans' Reports.

This study includes only courses taught on the Quadrangles. No data are included for correspondence-study courses or for classes in University College, the down-town teaching center. The data include the entire four quarters of the academic year. Informa-

[2] In the tabulations of this chapter the student-majors were counted in accordance with the school or division in which the courses were offered, not in accordance with the units in which the students were registered.

tion is presented concerning three recent years, 1926–27, 1927–28, and 1928–29; and in order to show trends, data are also presented for two other years, 1918–19 and 1908–9, at intervals of ten and twenty years, respectively, prior to the latest year used in the study. The analysis is made separately for the various departments of the Colleges and Graduate Schools of Arts, Literature, and Science and for the several professional schools of the University.

CHANGES IN ORGANIZATION UNITS

An important source of difficulty encountered in making the study of growth arose from the changes that have taken place through the years in the organization of the departments and schools of the University. If the data are to be comparable through the years, it is of course necessary that each department or school be consistently identified through the study; and to be of greatest use, the information should be presented according to the most recent organization of departments. In compiling these data it therefore became necessary to make several adjustments because certain departments lost their identity; some were submerged or combined with similar departments; others were formed into two or more new departments; and still others carried along related courses which ultimately developed into new departments. Although many courses apparently disappeared, the departments in which these courses were

TABLE 2

LIST OF DEPARTMENTS ASSUMED TO BE IDENTICAL

Departments as Organized at Time of Gathering Data for this Study	Formerly Listed As
Oriental Languages (Arts, Literature, and Science)	Old Testament (Divinity) Semitics Arabic
New Testament (Arts, Literature, and Science)	New Testament (Divinity) Biblical Greek Biblical Theology Biblical Literature Biblical Literature in English
Comparative Religion (Arts, Literature, and Science)	Comparative Religion (Divinity)
Comparative Philology	Sanskrit
Economics	Political Economy
Romance	Alliance Française
Sociology and Anthropology	Sociology Ecclesiastical Sociology Practical Sociology
Home Economics and Household Administration (Arts, Literature, and Science)	Clothing and Design* Household Administration* Home Economics* Food Chemistry* Food and Nutrition* Institution Economics* Domestic Science*
Anatomy	Neurology
Geology and Paleontology	Geology Paleontology
Germanic	German
Comparative Literature	General Literature
Art	History of Art
Mathematics	Pre-engineering
Hygiene and Bacteriology Pathology	Pathology and Bacteriology†
Chemistry	Chemistry of Medicinal Drugs

* Not including methods courses and courses given by instructors in the School of Education primarily for teachers in home economics. Such courses were counted in the School of Education. After 1923–24 all courses given in home economics in the School of Education were counted in that School.

† All courses given in bacteriology were counted in the Department of Hygiene and Bacteriology.

given did not disappear, at least that is the assumption; therefore all departments, whatever their history, have been consistently identified as they existed at the time the data were collected. Table 2 indicates the adjustments that were made. The departments listed in the second column represent those departments in the Colleges and Graduate Schools of Arts, Literature, and Science that theoretically lost their identity. The departments in the first column represent the classifications actually used in this study for the departments as they existed at the time of gathering the data for this study. For example, the courses in Biblical Greek, Biblical Theology, Biblical Literature, and Biblical Literature in English are indicated in the table as courses given in New Testament, because there is sufficient evidence to indicate that the Departments of Biblical Greek, Biblical Theology, etc., eventually became one department, namely, New Testament.

GROWTH IN STUDENT-MAJORS, BY DEPARTMENTS AND SCHOOLS

Table 3 presents information showing the number of student-majors in each of the departments of the Colleges and Graduate Schools of Arts, Literature, and Science, for the years included in this study. Table 4 presents similar information for the various professional schools, and also shows the totals for the

professional schools, for the Colleges and Graduate Schools of Arts, Literature, and Science, and for the

TABLE 3

NUMBER OF STUDENT-MAJORS CARRIED, BY DEPARTMENTS, IN THE COLLEGES AND GRADUATE SCHOOLS OF ARTS, LITERATURE, AND SCIENCE, FOR SELECTED YEARS FROM 1908–9 TO 1928–29

DEPARTMENT	NUMBER OF STUDENT-MAJORS				
	1908–9	1918–19	1926–27	1927–28	1928–29
English	2,680	3,843	5,642	5,774	5,378
History	1,952	2,705	3,896	3,961	3,836
Economics	968	2,056	2,748	2,368	2,393
Romance	1,156	2,492	2,007	2,337	2,213
Chemistry	1,456	2,806	1,909	1,965	2,172
Sociology and Anthropology	864	898	1,922	2,024	2,104
Physical Culture	1,781	2,537	2,046	1,888	1,754
Mathematics	1,018	1,381	1,711	1,672	1,724
Political Science	426	684	1,552	1,544	1,548
Physics	700	879	1,087	1,329	1,266
Philosophy	445	715	1,418	1,265	1,234
Psychology	559	600	1,279	1,262	1,220
Home Economics	303	832	1,045	1,081	1,150
Geography	466	778	1,229	1,036	1,032
Germanic	1,372	326	788	1,139	1,010
Art	153	.....	921	960	991
Botany	478	539	981	1,099	970
Zoölogy	300	651	956	995	953
Geology and Paleontology	752	637	911	924	839
New Testament	452	381	773	824	732
Oriental Languages	558	200	412	460	646
Astronomy	301	333	334	259	599
General Survey	.....	.....	444	343	588
Latin	743	317	535	572	521

TABLE 3—*Continued*

Department	Number of Student-Majors				
	1908–9	1918–19	1926–27	1927–28	1928–29
Military Science	.....	63	332	332	323
Comparative Literature	251	474	239	347	309
Greek	398	143	335	313	263
Comparative Religion	81	64	185	205	173
Comparative Philology	51	34	37	50	29
Public Speaking	641	174	.....	.....	.....
Total medical courses	(1,798)	(2,947)	(3,285)	(3,503)	(3,869)
Anatomy	629	795	1,053	1,071	998
Physiology	422	604	686	700	797
Physiological Chemistry and Pharmacology	285	453	569	621	626
Hygiene and Bacteriology	157	667	520	546	594
Pathology	239	300	343	307	414
Medicine	.....	.....	.....	102	161
Surgery	.....	.....	.....	41	160
Zoölogy (medical)	66	128	114	115	119
Total Arts, Literature, and Science	23,103	30,489	40,959	41,831	41,839

University as a whole, including only courses taught on the Quadrangles.

The departments offering courses primarily for medical students, namely, Zoölogy (one course), Anatomy, Physiology, Physiological Chemistry and Pharmacology, Hygiene and Bacteriology, Pathology, Medicine, and Surgery, appear in the table for Arts, Literature, and Science and also in the table for the professional schools, but all duplications are clearly

indicated and are not carried along in the net totals.

TABLE 4

TOTAL NUMBER OF STUDENT-MAJORS CARRIED IN EACH OF THE PROFESSIONAL SCHOOLS AND IN THE UNIVERSITY AS A WHOLE, FOR SELECTED YEARS FROM 1908–9 TO 1928–29

UNIVERSITY DIVISION	NUMBER OF STUDENT-MAJORS				
	1908–9	1918–19	1926–27	1927–28	1928–29
Professional schools:					
Education*	2,902	3,317	6,029	5,576	4,933
Law	2,176	1,122	4,353	4,669	4,919
Divinity	715	585	1,661	2,140	2,184
Medical schools:					
Medical courses†	(1,798)	(2,947)	(3,285)	(3,503)	(3,869)
Rush Medical	.....	.....	2,924	3,017	2,622
Business‡	.....	.....	1,585	1,702	1,515
Social Service Administration§	.....	.....	755	931	853
Graduate Library	.....	.....	.....	.....	50
Total	(7,591)	(7,971)	(20,592)	(21,538)	(20,945)
Total Arts, Literature, and Science‖	23,103	30,489	40,959	41,831	41,839
Total for the University	28,896	35,513	58,266	59,866	58,915

* Including the Department of Education.

† Including only the medical courses given in the Ogden Graduate School of Science.

‡ Formerly called the School of Commerce and Administration.

§ Formerly called the Graduate School of Social Service Administration.

‖ Not including the Department of Education. Including the medical courses, the Departments of Comparative Religion, Oriental Languages and Literature, New Testament and Early Christian Literature, and Public Speaking (1908–9 and 1918–19).

The Department of Education is the central unit in the School of Education, providing professional courses for teachers, supervisors, college instructors, and research students. It was also a department in the Colleges and Graduate Schools of Arts, Literature, and Science. In this study the Department of Education is included in the School of Education, together with the six departments (Special Methods) in the College of Education that supplemented the work of corresponding academic departments in the Colleges of Arts, Literature, and Science, and the remaining departments in the College of Education that did not correspond to other departments in the University.[3]

The Departments of Oriental Languages and Literature (Old Testament), New Testament, and Comparative Religion are departments of the Colleges and Graduate Schools of Arts, Literature, and Science, but a student completing his graduate work in any of these departments may receive his higher degree either in the Divinity School or in the Graduate School of Arts and Literature. The budgets for these departments are integral parts of the budget for Arts, Literature, and Science. Although opinions will probably differ as to the number of courses given in these

[3] Since these data were collected, all the instruction in education has been made a part of the Division of the Social Sciences, under the Department of Education. The College of Education has been discontinued as a professional school.

departments that are distinctly non-professional, in this study all the work given in these departments is included in the Schools and Colleges of Arts, Literature, and Science.

Figure 14 gives a graphic representation of the trend of student-majors over the period from 1908–9 to 1928–29, separate curves being drawn for the total of all student-majors on the Quadrangles, the total in Arts, Literature, and Science, and the total in the professional schools.

The curves shown in Figure 14 indicate that there were three phases of growth in student-majors in the period from 1908–9 to 1928–29. During the decade from 1908–9 to 1918–19 the growth in total student-majors was relatively slow. The professional schools had practically the same number of student-majors in 1918–19 as in 1908–9, but the Colleges and Graduate Schools of Arts, Literature, and Science had a considerable increase during this period. Following the close of the World War there was a rapid increase in the number of student-majors in both the professional schools and the departments of Arts, Literature, and Science. In the last year of the period studied (1928–29), the increase terminated abruptly and a slight decline was registered in the total number of student-majors. The decline occurred chiefly in the Colleges and Graduate Schools of Arts, Literature, and Science, the professional schools remaining at approximately the same level as in 1927–28.

It will be noted that these data have been brought down only to 1928–29; the enrolment data presented in a preceding section included two later years, 1929–

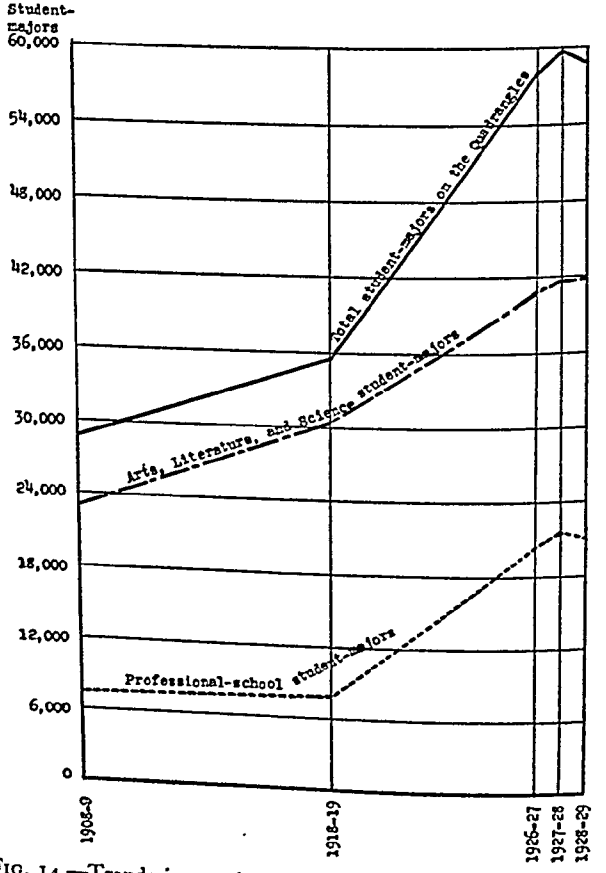


FIG. 14.—Trends in number of student-majors on the Quadrangles from 1908–9 to 1928–29.

30 and 1930–31. If the data relating to student-majors had been assembled for the years 1929–30 and 1930–31, there would have appeared undoubtedly a downward trend in all of the curves shown in Figure 14.

During the twenty-year period covered by the study, the total number of student-majors on the Quadrangles slightly more than doubled. This fact means that, in terms of actual student carrying-load on the Quadrangles, the task of the University in 1928–29 was twice what it was in 1908–9. The relative increase in student-majors in Arts, Literature, and Science was considerably less than in the professional schools.

It is possible to compare the total number of student-majors carried in the University to the total enrolments for the years for which data are available. These data are given in Table 5.

This table shows that in three of the five selected years for which data are shown, approximately five and one-half student-majors of credit were issued for every student counted as an enrolment. It will be recalled that the total student-major load of one student enrolled for the academic year of nine months was normally nine student-majors. It is obvious from these data that the enrolment, as it was counted, actually represented something less than one student in full-time residence for two-thirds of an academic year of nine months. The reason for the discrepancy be-

tween the ratio shown and the ideal ratio of nine to one is largely accounted for by the enrolments of Summer Quarter students. In the enrolment figures each student enrolled at any time during the year was counted as an enrolment. A large number were enrolled for only one term of the Summer Quarter, during which they could have obtained 1½ majors. Students enrolled for the full Summer Quarter normally obtained 3 majors of credit.

TABLE 5

RATIO OF TOTAL STUDENT-MAJORS TO TOTAL ENROLMENTS, FOR SELECTED YEARS FROM 1908–9 TO 1928–29

Year	Total Student-Majors	Total Enrolments on the Quadrangles*	Ratio of Student-Majors to Enrolments
1908–9	28,896	5,174	5.585
1918–19	35,513	7,282	4.877
1926–27	58,266	11,007	5.294
1927–28	59,866	10,873	5.506
1928–29	58,915	10,679	5.517

* Total number of different students enrolled in the University minus University College enrolments.

It would be possible to make a similar comparison of ratios between enrolments and student-majors for the Colleges and Graduate Schools of Arts, Literature, and Science and the professional schools separately. This has not been done, however, because students take courses somewhat indiscriminately in the professional schools or in the Colleges of Arts, Literature, and Science. Students in many of the professional

schools take a large part of their course work in Arts, Literature, and Science, and students registered in Arts, Literature, and Science may take a considerable amount of course work as electives in the professional schools.

Table 6 presents information regarding the percentage of increase over the twenty-year period in the several departments of the Colleges and Graduate Schools of Arts, Literature, and Science and in the various professional schools that were in existence over the entire period. Somewhat similarly, Figure 15

TABLE 6

PERCENTAGE OF INCREASE OR DECREASE IN NUMBER OF STUDENT-MAJORS FROM 1908–9 TO 1928–29 IN CERTAIN DEPARTMENTS AND PROFESSIONAL SCHOOLS

	Percentage of Increase*
Art	547.7
Home Economics	279.5
Hygiene and Bacteriology	278.3
Political Science	263.4
Zoölogy	217.7
Philosophy	177.3
Economics	147.2
Sociology and Anthropology	143.5
Geography	121.5
Physiological Chemistry	119.7
Psychology	118.3
Medical courses	115.2
Comparative Religion	113.6
Botany	102.9
English	100.7
Astronomy	99.0

* Decrease indicated by a minus sign.

TABLE 6—*Continued*

	Percentage of Increase*
History	96.5
Romance	91.4
Physiology	88.9
Physics	80.9
Zoölogy (medical)	80.3
Pathology	73.2
Mathematics	69.4
New Testament	62.0
Anatomy	58.7
Chemistry	49.2
Comparative Literature	23.1
Oriental Languages	15.8
Geology and Paleontology	11.6
Physical Culture and Athletics	− 1.5
Germanic	− 26.4
Latin	− 29.9
Greek	− 33.9
Comparative Philology	− 43.1
Arts, Literature, and Science	78.0
Divinity School	205.5
Law School	126.1
School of Education	70.0
Professional schools	185.2
Entire University	103.9

gives a graphic representation of the number of student-majors in certain of the departments and professional schools in 1908–9 and in 1928–29, the departments and schools shown in the figure being all those

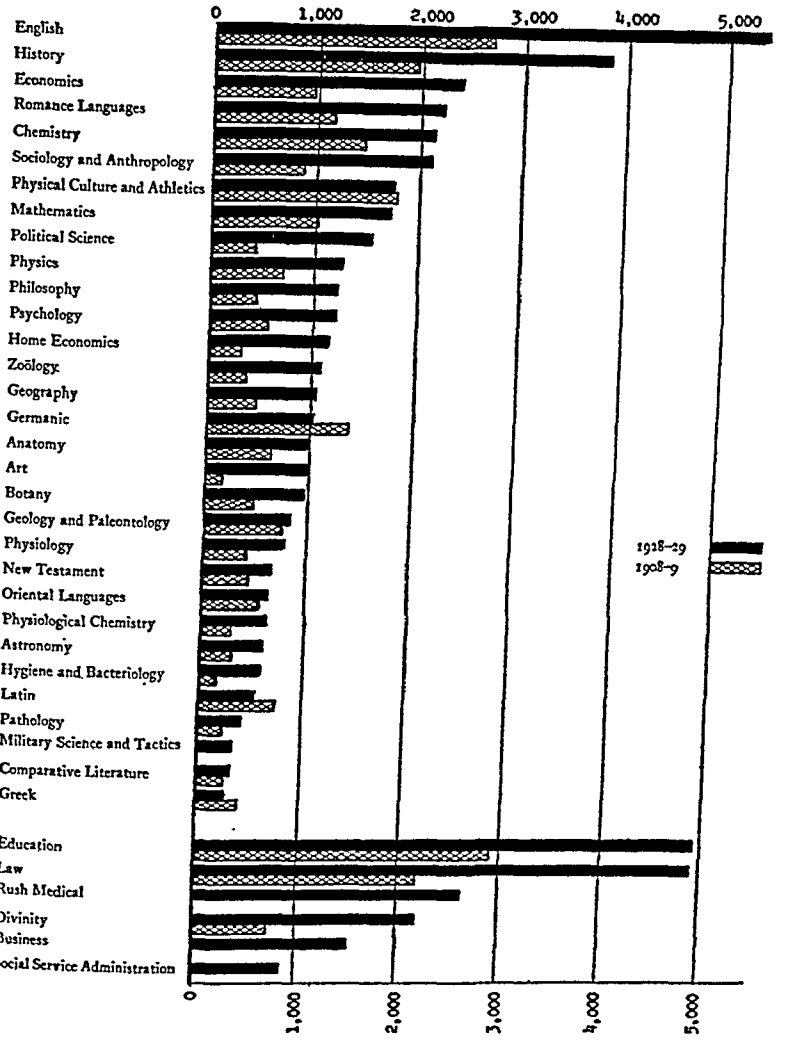


FIG. 15.—Student-majors carried in certain departments of the Colges of Arts, Literature, and Science, and in the professional schools durg 1908–9 and 1928–29.

with more than two hundred student-majors in 1928–29.

All but five of the departments of Arts, Literature, and Science and all of the professional schools had an increase in the number of student-majors during the twenty-year period. The departments that showed important decreases all enrolled a relatively small number of students. Two departments, English and History, had a larger number of student-majors than any other department both in 1908–9 and 1928–29. The gain in the professional schools came about not only through increases in the schools that had continuous existence over the period but also through the establishment of new schools.

The increases may be compared, not only by departments, but also in accordance with the divisional organization as it now exists in the University. In making such a study it is necessary to classify somewhat arbitrarily the departments which are now assigned to more than one division. For the purpose of this study, the Department of Geography was considered as belonging to the Division of the Physical Sciences, and the Departments of History[4] and Education[5] were included in the Division of the Social Sciences. General survey courses were omitted in

[4] The Department of Geography is in both the Division of the Social Sciences and the Division of the Physical Sciences; the Department of History is in both the Division of the Humanities and the Division of the Social Sciences.

[5] Including courses formerly given in the School of Education.

making the study by divisions, since these courses as they were given in 1928–29 are not regularly assignable to any of the divisions.

Table 7 presents data showing the number of student-majors for each of the divisions for the years

TABLE 7

INCREASE IN TOTAL NUMBER OF STUDENT-MAJORS IN EACH OF THE FOUR DIVISIONS FROM 1908–9 TO 1928–29

Division	Number of Student-Majors		Percentage of Increase
	1908–9	1928–29*	
Social Sciences†	7,112	14,814	108.3
Biological Sciences	5,219	9,916	90.0
Physical Sciences	4,693	7,955	69.5
Humanities	8,981	13,499	50.3

* Not including general survey courses.

† Including courses in education.

1908–9 and 1928–29. The table also shows the percentage of increase over the twenty-year period for each division.

This table shows that the departments now classified in the Division of the Social Sciences had both the largest numerical gain and the largest percentage gain over the twenty-year period. All of the departments that showed rather substantial losses over the period, as was shown in Table 6, were in the Division of the Humanities. The Division of the Humanities showed the smallest percentage gain of any of the four divi-

sions, although its numerical gain was only a little smaller than that of the Biological Sciences. During the twenty-year period, the Divisions of the Humanities and of the Social Sciences changed places with respect to leadership in the total number of student-majors. Formerly the Division of the Humanities held first place, but at the end of the period studied the Division of the Social Sciences was larger than any of the other divisions of the University.

CHAPTER IV

GROWTH IN NUMBER OF DEGREES GRANTED

This study covers a period of thirteen years, beginning with the year of the close of the war-time period, 1918–19, and closing with the year 1930–31. The data relating to the trends of the number of degrees granted have been taken from the annual *President's Reports* of the University of Chicago. A number of errors found in these *Reports* have all been checked and corrected in the present study.

Numerous changes have taken place since 1918–19 in the organization of curriculums and in the classification of departments and courses of the University. Inasmuch as it is desirable to interpret the data relating to the number of degrees granted as nearly as possible in accordance with the present departmental and divisional organization of the institution, certain necessary adjustments in the original data have been made for this study. The emphasis is placed in this study upon trends and comparisons, and no attempt is made to give a historical treatise relating to the changes and developments in curriculums,[1] depart-

[1] Material relating to the history of curriculum changes in the University is presented in Vol. IV of The University of Chicago Survey, *Instructional Problems in the University*.

ments, and divisions. In general, the text does not refer specifically to the adjustments that were made in the original data. Wherever this information is necessary for the proper interpretation of the data, a textual note is included.

The introduction of new degrees since 1918–19 has been taken into account. However, no account has been taken of the modification of requirements for the various degrees. In other words, a given degree is considered as meaning the same thing throughout the entire period covered by the study.

The material relating to the trends in the number of degrees granted is presented first in terms of the total of all degrees. In succeeding sections the data are classified by schools and colleges, by divisions, and by departments, respectively.

TRENDS IN TOTAL OF ALL DEGREES

Table 8 presents data showing the number of degrees of each type conferred during each of the years covered by the study. The table also shows the total for the entire history of the University since its founding in 1892. For comparative purposes, a line of totals showing the number of degrees of each type conferred during the last ten years of the period studied is included. The data are shown in graphic form in Figure 16.

The comparative totals in Table 8 show that during the last ten years of the period studied (from 1921–22

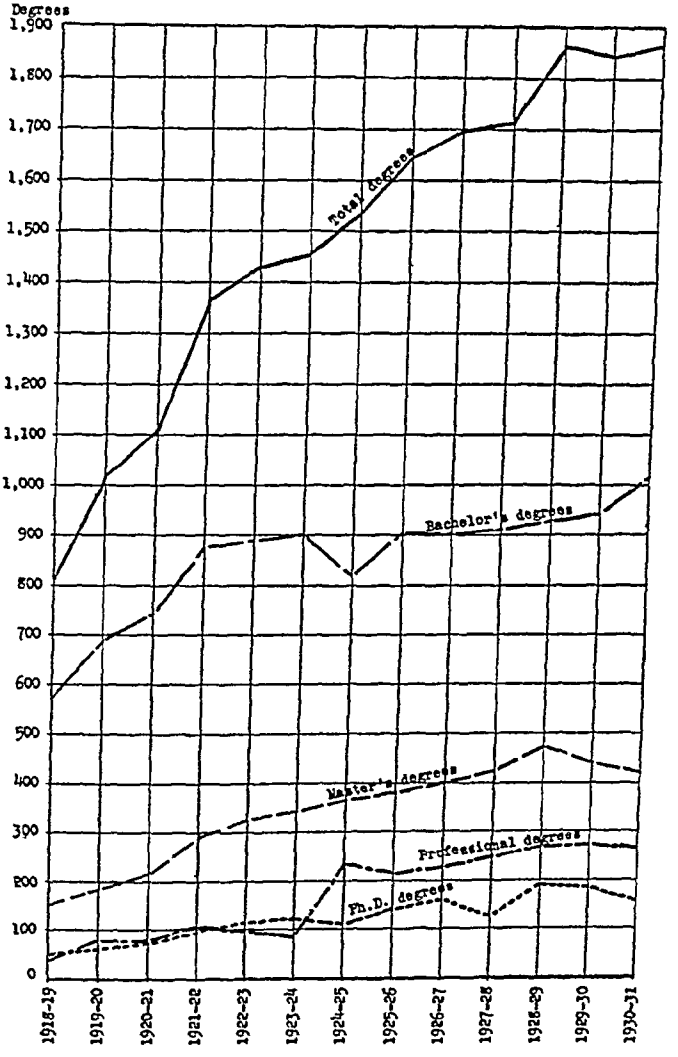


FIG. 16.—Total number of degrees of each type conferred each year from 1918–19 to 1930–31.

to 1930–31) more degrees were issued by the University of Chicago than during the entire twenty-eight

TABLE 8

TOTAL NUMBER OF DEGREES OF EACH TYPE CONFERRED EACH YEAR FROM 1918–19 TO 1930–31, AND TOTAL FOR ENTIRE HISTORY OF THE UNIVERSITY

Year	Total	Bachelor's	Master's	Ph.D.	Professional
1918–19	812	569	151	52	40
1919–20	1,020	688	186	65	81
1920–21	1,112	741	213	76	82
1921–22	1,365	875	289	96	105
1922–23	1,429	889	327	114	99
1923–24	1,456	902	342	124	88
1924–25	1,535	820	367	113	235
1925–26	1,646	905	380	143	218
1926–27	1,697	903	401	164	229
1927–28	1,713	909	423	130	251
1928–29	1,865	930	473	192	270
1929–30	1,842	943	437	186	276
1930–31	1,864	1,014	420	161	269
Total	19,356	11,088	4,409	1,616	2,243
Total from 1921–22 to 1930–31, inclusive	16,412	9,090	3,859	1,423	2,040
Total from 1892–93 to 1930–31, inclusive	31,243*	18,936	6,289	2,724	3,294

* Including 3,836 persons (2,766 men and 1,070 women) who received more than one degree. The net total of alumni up to the close of the year 1930–31 was 27,407 (15,115 men and 12,292 women).

years of its previous history. In this ten-year period, 61.9 per cent of all the professional degrees, 61.4 per

cent of all the master's degrees, and 52.2 per cent of all the Ph.D. degrees issued by the University were conferred. Bachelor's degrees were the only category of which less than half were issued in the ten-year period, but 48.0 per cent of all of the bachelor's degrees were issued during this time.

The general trend over the period from 1918–19 to 1930–31, as indicated by the data of Table 8, was toward increases in all degrees. The most rapid rate of increase was in professional degrees.

Figure 17 presents data showing the percentage of degrees of each type conferred each year from 1918–19 to 1930–31, and for the periods from 1892–93 to 1920–21 and from 1921–22 to 1930–31.

It will be observed from this figure that during the period from 1918–19 to 1930–31 the percentage of bachelor's degrees decreased, although there was a slight increase during the last two years of this period. The percentages of both master's degrees and professional degrees increased markedly. The percentage of Ph.D. degrees increased somewhat, although there was a decline in the last year included in the study.

The two final columns in the figure contrast the percentage distribution of degrees in the period from 1892–93 to 1920–21 with that in the last decade covered by the study. It will be observed that the column for the most recent decade shows that a considerably smaller percentage of the total degrees were bachelor's degrees than was the case in the period

from 1892–93 to 1920–21. On the other hand, the most recent decade showed a larger percentage of the total degrees that were professional degrees and

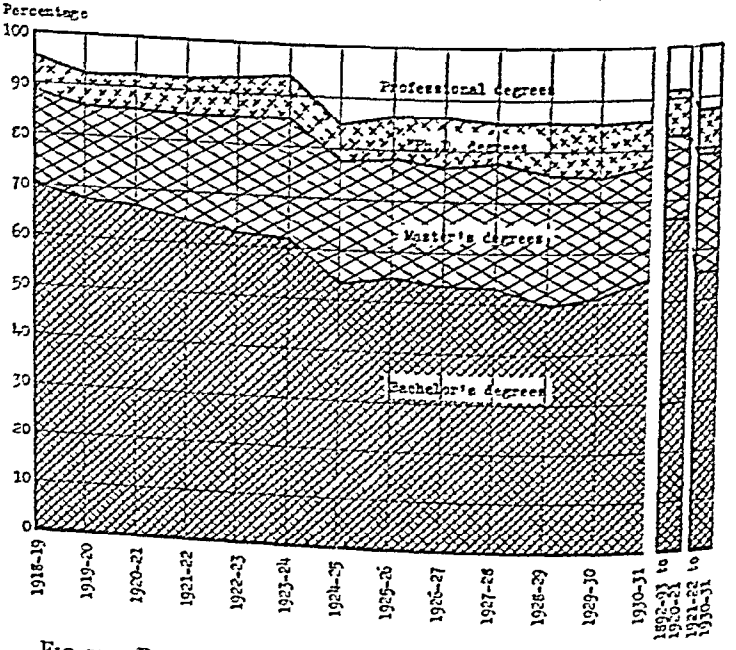


FIG. 17.—Percentage of degrees of each type conferred each year from 1918–19 to 1930–31, and for the periods from 1892–93 to 1920–21 and from 1921–22 to 1930–31.

master's degrees than was the case in the earlier years. The percentages of the total degrees that were Ph.D. degrees were about the same in the two periods.

It is interesting to compare the trends in enrolments with the trends in number of degrees granted.

Table 9 presents data showing the total number of different students enrolled, the total number of degrees granted, the number of higher degrees granted,

TABLE 9

RATIO OF TOTAL NUMBER OF DIFFERENT STUDENTS ENROLLED TO TOTAL NUMBER OF DEGREES GRANTED EACH YEAR FROM 1918–19 TO 1930–31

Year	Number of Different Students Enrolled	Number of Degrees Granted	Ratio of Number of Students to Number of Degrees	Number of Higher Degrees	Ratio of Number of Students to Number of Higher Degrees
1918–19	8,593	812	10.58	243	35.36
1919–20	10,841	1,020	10.63	332	32.65
1920–21	11,361	1,112	10.22	371	30.62
1921–22	12,403	1,365	9.09	490	25.31
1922–23	12,710	1,429	8.89	540	23.58
1923–24	13,317	1,456	9.15	554	24.04
1924–25	13,890	1,535	9.05	715	19.43
1925–26	14,472	1,646	8.79	741	19.53
1926–27	14,500	1,697	8.54	794	18.26
1927–28	14,474	1,713	8.45	804	18.00
1928–29	14,433	1,865	7.74	935	15.44
1929–30	14,245	1,842	7.73	899	15.85
1930–31	13,646	1,864	7.32	850	16.05
Total from 1918–19 to 1930–31, inclusive	168,885	19,356	8.73	8,268	20.43

and the ratios of enrolments to total number of degrees and to number of higher degrees.

It will be observed from this table that the ratio of number of students to number of degrees granted decreased steadily over the period. An even more pro-

nounced trend was the decreasing ratio of the number of students to the number of higher degrees. It will be observed that this ratio was more than cut in half during the thirteen years covered by the study. In other words, more than twice as many higher degrees were granted in proportion to the number of students enrolled during the last two or three years covered by the period as was the case during the first two years of the period. It should be remembered that the data relating to the number of students includes also those enrolled in University College, the down-town teaching center. It is interesting to note that the ratio of number of students to number of degrees decreased during a period when University College enrolments were increasing very rapidly.[2] As these enrolments typically represent part-time students, the change in the ratio of full-time students to number of degrees would be even more striking than that shown in Table 9.

Figures 18 and 19 present graphically the increase in the number of degrees granted and the enrolments during the thirteen years, using 1918–19 as a base. Figure 18 deals with the total enrolments and the total number of all degrees, the number of higher degrees, and the number of bachelor's degrees; Figure 19 deals with increases in the number of senior-college students and the number of bachelor's degrees.

[2] See Table 47 in the Appendix for University College enrolments during this period.

Figure 18 shows that, using 1918–19 as a base, the total number of all degrees increased more rapidly from 1918–19 to 1930–31 than the number of students

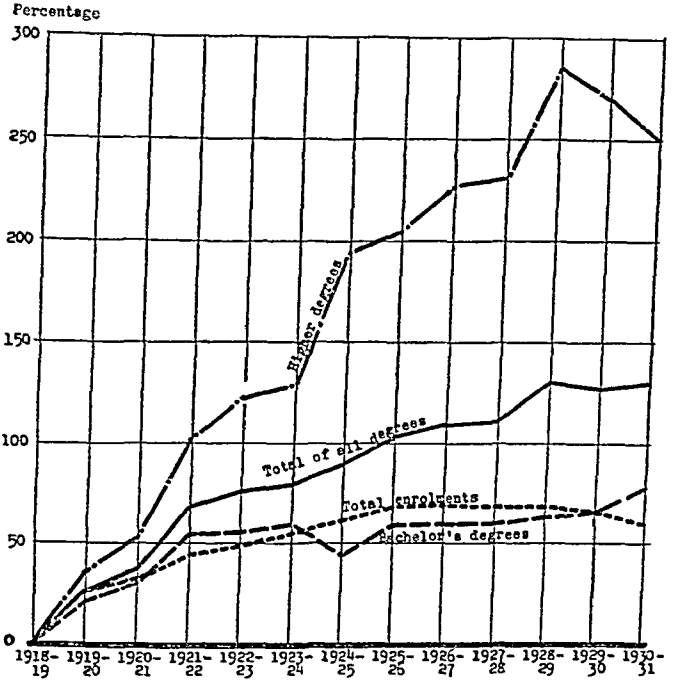


FIG. 18.—Percentage of increase in total enrolments and in total of all degrees, higher degrees, and bachelor's degrees from 1918–19 to 1930–31, using 1918–19 as a base.

enrolled. Higher degrees increased at a much more rapid rate than enrolments, but the rate of increase in bachelor's degrees during this period was approximately the same as the rate of increase in total enrol-

ments. Figure 19 shows that, using 1918–19 as a base, the number of bachelor's degrees increased somewhat less rapidly than the enrolments of students in the senior college.

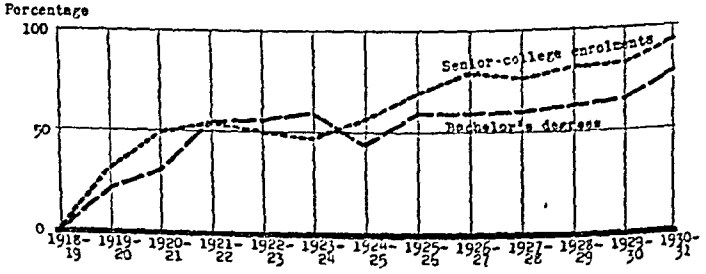


FIG. 19.—Percentage of increase in senior-college enrolments and in bachelor's degrees from 1918–19 to 1930–31, using 1918–19 as a base.

A preceding section of this report has given data regarding the total number of student-majors, that is, the total number of course units of work carried by students.[3] It is possible, therefore, to compare for certain years the number of student-majors carried in the University and the number of degrees granted. This comparison is possible only for the years 1918–19, 1926–27, 1927–28, and 1928–29, since these were the only years for which data relating both to student-majors and degrees were collected. During the year 1918–19, the ratio of student-majors to the total number of degrees granted was 43.7, that is, for every 43.7 student-majors carried, one degree was issued.

[3] See chap. iii.

During the three years from 1926–27 to 1928–29, the average number of student-majors carried per degree granted was 33.6; during the latest of these three years, 1928–29, the average was only 31.6. It is apparent that during the period covered by these data the number of student-majors carried increased at a slower rate than the number of degrees granted. In other words, more degrees were issued in proportion to the units of course work carried during the later years than was the case in 1918–19.

An increased proportion of transfer students above the freshman level would tend to decrease the ratio of student-majors to degrees. Increases in enrolments at the graduate level, especially candidates for the master's degree, where the curriculums are normally much shorter than those for the bachelor's degree, would also tend to reduce the number of student-majors per degree. The decrease in this ratio may be due not only to increases in the number of transfer students and to increases in the number of students and degrees at the graduate level but also to a tendency on the part of students to utilize toward degrees a greater proportion of the credits earned in the University.

Commencement exercises, known locally as "Convocations," are held at the end of each of the four quarters of the academic year at the University of Chicago. This plan of frequent graduation exercises was one of the innovations introduced by President

Harper. Figure 20 presents graphically the percentage of the total number of higher degrees conferred annually each quarter during a period of ten years from 1921–22 to 1930–31.[4] Degrees that are tabu-

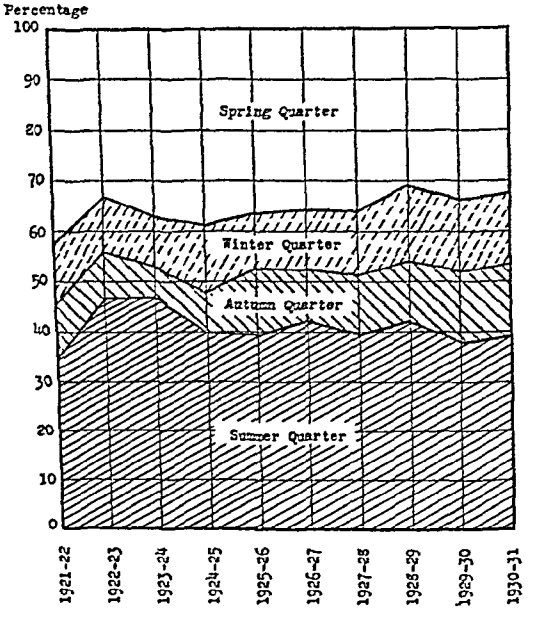


FIG. 20.—Percentage of total number of higher degrees conferred each quarter from 1921–22 to 1930–31.

lated as having been conferred during a given quarter are those conferred in the Convocation held at the end of that quarter. Thus the degrees indicated as having been conferred during the Spring Quarter are

[4] Table 57 in the Appendix presents the same data in tabular form.

those that were conferred at the June Convocation, commonly known as the Summer Convocation.

With the exception of one year, 1921–22, the largest number of higher degrees was granted in Summer quarters. The next largest number was granted in Spring quarters. Approximately three fourths of all the higher degrees were conferred at the close of the Spring and Summer quarters. The numbers of higher degrees conferred at the close of Autumn and Winter quarters were usually about the same, each comprising, on the average, approximately one-eighth of the total.

HIGHER DEGREES, CLASSIFIED BY SCHOOLS AND COLLEGES

This and the following sections of this chapter deal only with graduate and professional degrees,[5] bache-

[5] In this study of higher degrees it has been necessary to change somewhat the classification of departments used in the preceding chapter. In succeeding tables the Department of Education, included as part of the professional School of Education in the study on trends of growth by student-majors, is shown in the Graduate Schools of Arts, Literature, and Science in which degrees for that Department are issued. It has already been explained that the Department of Education has recently been incorporated in the Division of the Social Sciences. The three Departments of Oriental Languages and Literature, New Testament, and Comparative Religion, formerly classed in the Graduate School of Arts and Literature, appear in this chapter either in the Divinity School or the Graduate Schools of Arts, Literature, or Science, depending upon which school conferred the degree. These departments function both as professional-school departments in the Divinity School and as departments in the Graduate Schools of Arts, Literature, and Science, offering courses primarily for graduate and divinity students, the students concerned securing their degrees in whichever school they prefer.

lor's degrees not being considered. Although bachelor's degrees in the past at the University of Chicago were classified as being in the Colleges of Arts (A.B. degree), Literature (Ph.B. degree), and Science (B.S. degree), this distinction has lost its meaning under the new plan of organization of the University.

Table 10 presents data showing, for each of thirteen years from 1918–19 to 1930–31, the total number of higher degrees conferred by each of the several schools and colleges of the University. Figure 21 gives a graphic representation of these same data for the Graduate Schools of Arts, Literature, and Science, the Divinity School, and the Law School.

Table 10 shows a steady increase in the total number of higher degrees conferred each year up to 1928–29. After that year there was a slight decrease. The number of higher degrees issued in 1928–29 was almost four times the number issued ten years previously, in 1918–19. This increase was occasioned not only by increases in the number of higher degrees conferred in each division of the University but also by the organization of new units within that period.

The data for higher degrees conferred in the Graduate Schools of Arts, Literature, and Science, in the Divinity School, and in the School of Business all show the same characteristics as those for the total higher degrees, these schools having reached their peaks in 1928–29 and then declined. The School of Social Service Administration, the Law School, and

TABLE 10

TOTAL NUMBER OF HIGHER DEGREES CONFERRED EACH YEAR FROM 1918–19 TO 1930–31, ARRANGED BY SCHOOLS

School	Degree	Total	1918–19	1919–20	1920–21	1921–22	1922–23	1923–24	1924–25	1925–26	1926–27	1927–28	1928–29	1929–30	1930–31
Total University	Total higher degrees	8,268	243	332	371	490	540	554	715	741	794	804	935	899	850
Arts, Literature, and Science	Total	5,156	165	208	249	320	373	396	423	450	500	478	563	526	505
	Ph.D.	1,467	45	60	74	92	104	114	107	126	153	121	171	160	140
	Master's	3,689	120	148	175	228	269	282	316	324	347	357	392	366	365
Divinity	Total	684	44	44	47	65	60	51	45	48	48	52	70	61	49
	Ph.D.	118	7	5	2	3	9	9	5	13	10	7	17	18	13
	Master's	467	29	32	34	51	36	36	30	31	35	41	44	37	31
	B.D.	99	8	7	11	11	15	6	10	4	3	4	9	6	5
Business*	Total	163	2	6	4	8	20	17	14	16	9	15	22	16	14
	Ph.D.	17	.....	.....	.....	1	1	.....	.....	2	1	1	3	4	4
	Master's	146	2	6	4	7	19	17	14	14	8	14	19	12	10
Social Service Administration	Total	113	.....	.....	.....	3	3	8	8	13	11	12	18	23	14
	Ph.D.	11	.....	.....	.....	.....	.....	1	1	2	.....	1	1	3	2
	Master's	102	.....	.....	.....	3	3	7	7	11	11	11	17	20	12
Graduate Library	Total	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	3	4
	Ph.D.	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2
	Master's	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	2
Law	Total	1,147	32	74	71	94	84	82	92	73	84	113	112	120	116
	LL.B.	194	4	9	16	24	24	24	22	15	9	16	7	15	9
	J.D.	949	28	65	55	70	60	58	70	56	75	97	105	105	105
	J.S.D.	4	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	2
Medical schools: Graduate School	M.D.	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Rush Medical	M.D.	991	.....	.....	.....	.....	.....	.....	133	141	142	134	149	150	142

* Formerly called the School of Commerce and Administration.

Rush Medical College reached their peak of degrees a year later, 1929–30, after which they declined, al-

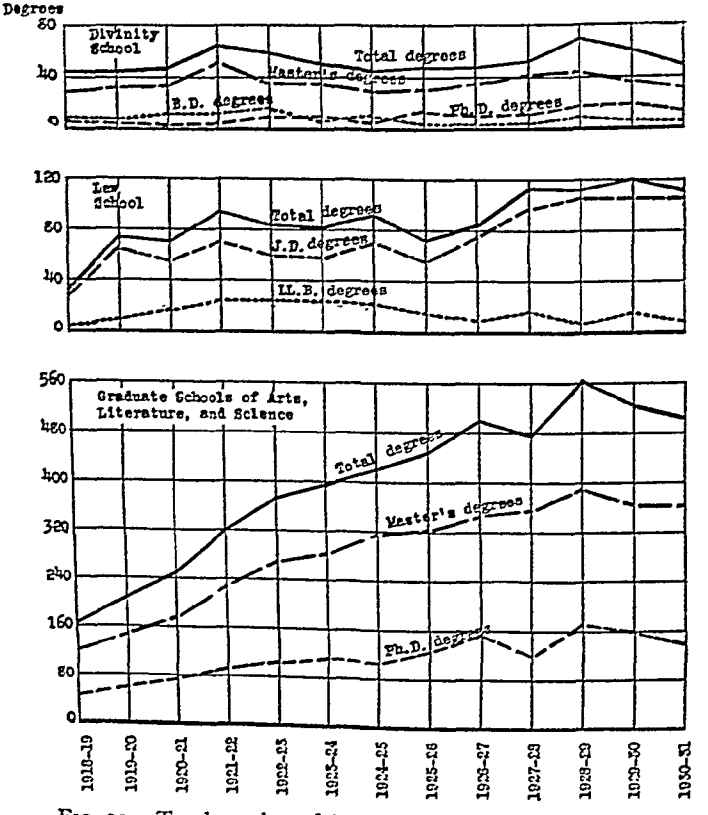


FIG. 21.—Total number of degrees conferred in the Divinity School, the Law School, and the Graduate Schools of Arts, Literature, and Science each year from 1918–19 to 1930–31.

though the decreases in those two last-named schools were unimportant. It should be noted that the LL.B.

degree in the Law School was given less emphasis in later years. The B.D. degree also underwent the same process in the Divinity School.

Figure 22 shows a graphic comparison of the distribution of higher degrees conferred in each school during two periods of six years, from 1918–19 to 1923–24, and from 1924–25 to 1929–30.[6]

During the six-year period from 1924–25 to 1929–30 the total number of higher degrees conferred by the University was almost double the number issued in the preceding six years. The greatest increase was in the professional degrees, the number in the period from 1924–25 to 1929–30 being almost three times that in the period from 1918–19 to 1923–24. Master's degrees showed a smaller percentage of increase than either Ph.D. or professional degrees.

A large part of the increase in professional degrees was brought about by the acquisition of Rush Medical College in 1924. If the degrees from this institution are omitted from this consideration, professional degrees had only a small increase during the period considered. The School of Social Service Administration was established during the first six-year period studied. Naturally, its percentage of increase was abnormally high. Except for the School of Social Service Administration, the Graduate Schools of Arts, Litera-

[6] Table 58 in the Appendix presents the same data in tabular form, and also includes data for the School of Social Service Administration and the Graduate Library School, which are not included in Figure 22.

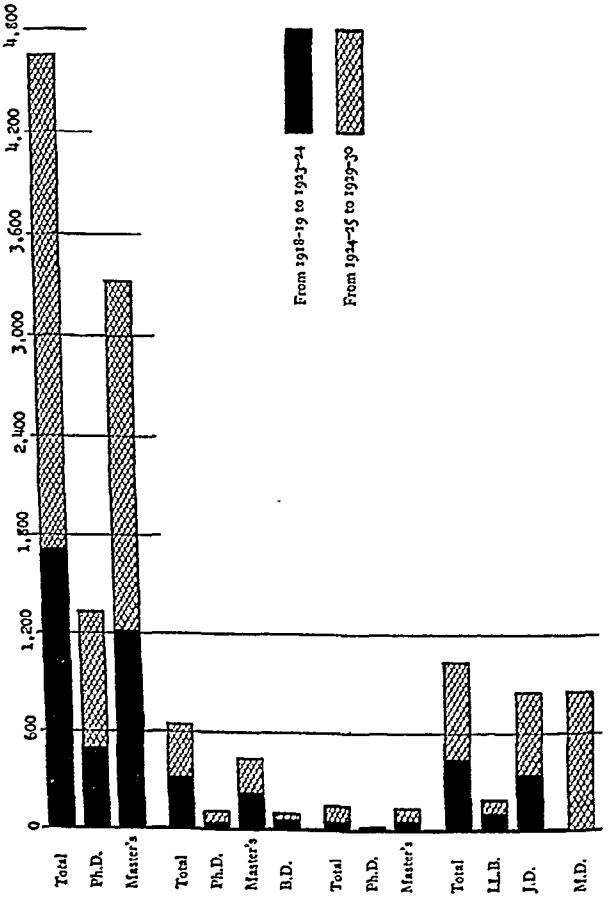


FIG. 22.—Total number of higher degrees conferred in five schools in each of two consecutive six-year periods, from 1918–19 to 1923–24 and from 1924–25 to 1929–30.

ture, and Science showed the largest percentage of increase in higher degrees during the period covered.

Figure 23 presents another picture of the increase in the degrees granted during the two periods from

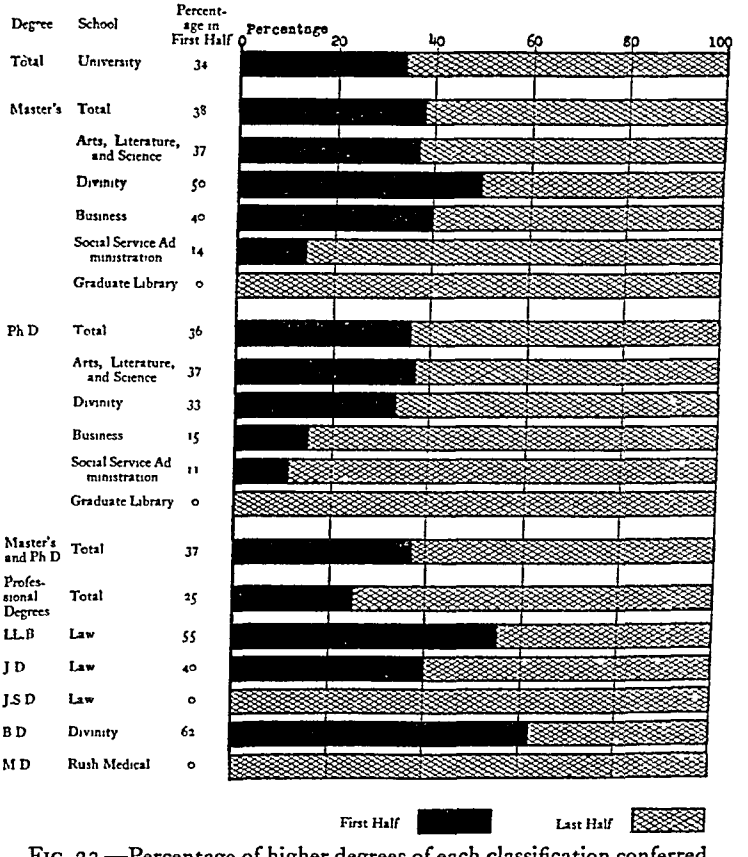


FIG. 23.—Percentage of higher degrees of each classification conferred during the first half and the last half of a twelve-year period from 1918–19 to 1930–31.

1918–19 to 1923–24 and from 1924–25 to 1929–30. In this figure the total number of degrees is considered as 100 per cent and the number granted during each of the six-year periods is presented as a percentage of the total.

TABLE 11

NET TOTAL STUDENTS ENROLLED AND HIGHER DEGREES CONFERRED EACH YEAR FROM 1918–19 TO 1930–31 IN THE GRADUATE SCHOOLS OF ARTS, LITERATURE, AND SCIENCE

Year	Number Of		
	Students Enrolled	Higher Degrees Conferred	Students per Degree
1918–19	1,995	165	12.09
1919–20	2,665	208	12.81
1920–21	2,679	249	10.76
1921–22	3,325	320	10.39
1922–23	3,485	373	9.34
1923–24	3,717	396	9.39
1924–25	3,830	423	9.05
1925–26	4,254	450	9.45
1926–27	4,321	500	8.64
1927–28	4,529	478	9.47
1928–29	4,571	563	8.12
1929–30	4,386	526	8.34
1930–31	4,108	505	8.13

It will be noted that the total master's degrees and the total Ph.D. degrees were each divided in the ratio of approximately three to five during the two periods covered by the study. Professional degrees, however, were divided in the ratio of one to three. In other words, the increase in professional degrees was much

greater than that in master's and Ph.D. degrees. As previously pointed out, this was principally due to the acquisition of Rush Medical College in 1924.

It is interesting to compare the enrolments of graduate students with the number of higher degrees con-

TABLE 12

NET TOTAL GRADUATE STUDENTS ENROLLED AND HIGHER DEGREES CONFERRED EACH YEAR FROM 1918–19 TO 1930–31 IN THE DIVINITY SCHOOL

Year	Number Of		
	Students Enrolled	Higher Degrees* Conferred	Students per Degree
1918–19	212	44	4.82
1919–20	258	44	5.86
1920–21	281	47	5.98
1921–22	309	65	4.75
1922–23	343	60	5.72
1923–24	315	51	6.18
1924–25	333	45	7.40
1925–26	376	48	7.83
1926–27	366	48	7.62
1927–28	459	52	8.83
1928–29	425	70	6.07
1929–30	410	61	6.72
1930–31	380	49	7.76

* The B.D. degree is included.

ferred in several of the schools. Tables 11, 12, 13, and 14 present such comparisons.

In the data of Tables 11, 12, 13, and 14 all higher degrees were considered alike and the total represents the sum of the master's and Ph.D. degrees in each

school. It may be suggested that the total should be arrived at by weighting the various degrees in accordance with the length of time normally taken for the obtaining of such a degree. This has been done in

TABLE 13

NET TOTAL GRADUATE STUDENTS ENROLLED AND HIGHER DEGREES CONFERRED EACH YEAR FROM 1920–21 TO 1930–31 IN THE SCHOOL OF BUSINESS

Year*	Number Of		
	Students Enrolled	Higher Degrees Conferred	Students per Degree
1920–21	73	4	18.25
1921–22	103	8	12.88
1922–23	115	20	5.75
1923–24	115	17	6.76
1924–25	126	14	9.00
1925–26	166	16	10.38
1926–27	165	9	18.33
1927–28	190	15	12.67
1928–29	181	22	8.23
1929–30	177	16	11.06
1930–31	153	14	10.93

* In 1918–19 and 1919–20 enrolments in the School of Business were included in Arts, Literature, and Science; the actual numbers were not available. During these two years this School conferred eight higher degrees.

Figure 24, which presents graphically the number of graduate students enrolled per weighted higher degree. The Ph.D. degrees were each given a weighting of three. B.D. degrees were also given a weighting of three. Master's degrees were given a weighting of one. This total of the number of weighted degrees

was then divided into the total enrolments in order to obtain the ratios that are presented in Figure 24. Because of the rather marked fluctuation from one year to the next in the data for some of the schools,

TABLE 14

NET TOTAL GRADUATE STUDENTS ENROLLED AND HIGHER DEGREES CONFERRED EACH YEAR FROM 1920–21 TO 1930–31 IN THE SCHOOL OF SOCIAL SERVICE ADMINISTRATION

Year*	Number Of		
	Students Enrolled	Higher Degrees Conferred	Students per Degree
1920–21	31	.....	.....
1921–22	38	3	12.67
1922–23	55	3	18.33
1923–24	57	8	7.13
1924–25	94	8	11.75
1925–26	130	13	10.00
1926–27	136	11	12.36
1927–28	186	12	15.50
1928–29	202	18	11.22
1929–30	226	23	9.83
1930–31	233	14	16.64

* Data were not available for the years 1918–19 and 1919–20.

the ratios in the figure were smoothed in order that the trends might be more clearly discernible.[7]

The data show that the general tendency in three

[7] The method of smoothing was to plot each year as the average of a three-year period, including the year immediately preceding and the year immediately following. This was done in the case of all except the first year and the last year of the period; for these years the average is for a two-year period. *See Table 59 in the Appendix for the unsmoothed data* upon which Figure 24 was based.

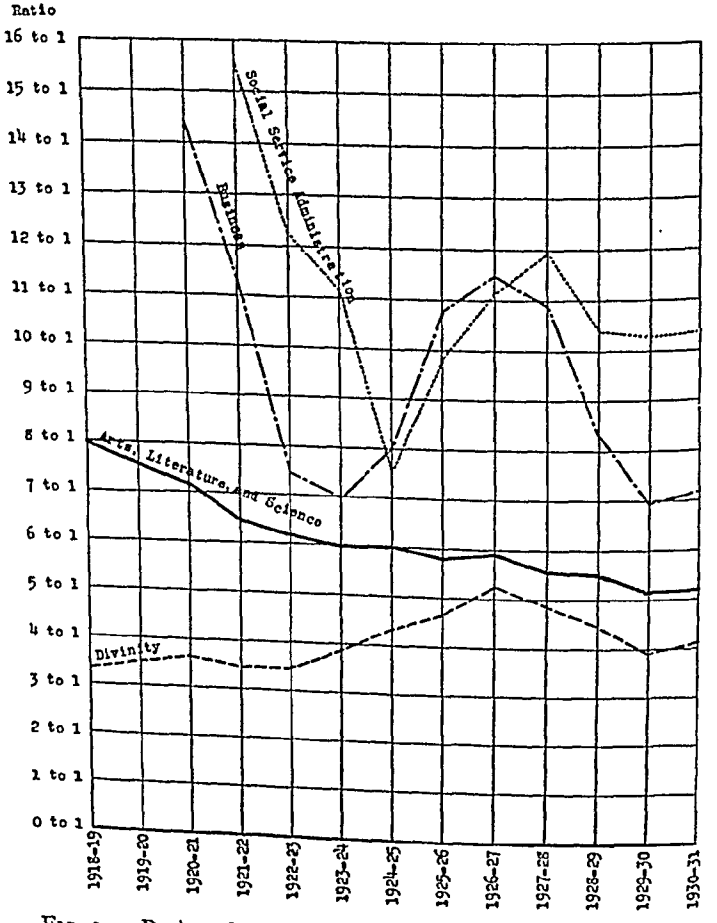


FIG. 24.—Ratios of graduate enrolments to weighted higher degrees over a period of years from 1918–19 to 1930–31 in four schools of the University. The data have been smoothed by taking a moving average of three years.

of these four groups (Divinity excepted) was to decrease the ratio of number of students enrolled to number of degrees granted over the thirteen-year period. The trend in the weighted numbers for all four groups combined was somewhat irregular, but, again excepting the Divinity School, the general tendency was downward.

It will be noted that ratio of graduate students to degrees conferred in the Graduate Schools of Arts, Literature, and Science diminished by approximately one-third over the thirteen-year period. This means that a considerably larger proportion of the graduate students enrolled in these schools were successful in getting degrees the last year of the period studied than was the case ten or twelve years previously. Comparative data from other institutions for this ratio are not available. It is, therefore, impossible to say whether the ratio was relatively high or low.

In the Divinity School the ratio of students to higher degrees increased over the period studied, a tendency exactly the opposite of that in the Graduate Schools of Arts, Literature, and Science. The three latest years shown, however, had ratios in the Divinity School that were considerably lower than those of the years immediately preceding. The ratios in the Divinity School tended to be much lower than in the Graduate Schools of Arts, Literature, and Science, the average ratio for the thirteen years being approximately 50 per cent greater than that in the Divinity

School. In no year during the period was the ratio in the Divinity School higher than that in Arts, Literature, and Science. This means that for a given number of graduate students the Divinity School conferred a much larger number of degrees than the Graduate Schools of Arts, Literature, and Science.

The trends in the ratios for the School of Business and for the School of Social Service Administration were very irregular, owing to the relatively small enrolments and the small number of degrees. Both these schools had average ratios greater than that for Arts, Literature, and Science. The ratio for the School of Social Service Administration was appreciably higher than that for the School of Business or any other graduate school.

partment of History is represented in two divisions, the Social Sciences and the Humanities, and that the Department of Geography is also represented in two divisions, the Social Sciences and the Physical Sciences. The Department of History has been classified in the Division of the Social Sciences, and the Department of Geography has been classified in the Division of the Physical Sciences.

Figures 25 and 26 present a graphic summary of the number of higher degrees of each type conferred in each of the divisions each year from 1918–19 to 1930–31.[8]

These data show that the Division of the Social Sciences had the largest increase in higher degrees of any of the divisions, although all of the divisions showed important increases over the period studied. The bulk of the degrees in the Divisions of the Social Sciences and the Humanities were master's degrees. Ph.D. degrees increased rapidly, however, in these Divisions. In the Division of the Physical Sciences the trend was irregular, but there were usually almost as many Ph.D. degrees as master's degrees, and in two of the years there were more Ph.D. degrees than master's degrees. In the Division of the Biological Sciences the number of master's degrees exceeded the number of Ph.D. degrees in every year, but the difference tended to be less than in the case of the Divisions of the Social Sciences and the Humanities.

[8] Table 60 in the Appendix presents the same data in tabular form.

Table 15 presents a percentage distribution of Ph.D. degrees and master's degrees conferred in each division and in the professional schools, showing the

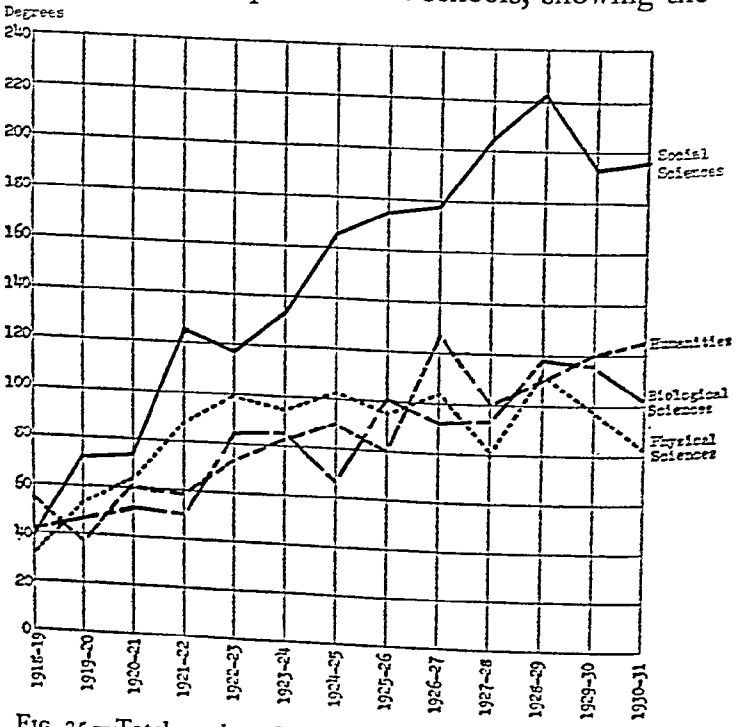


FIG. 25.—Total number of higher degrees conferred in each division each year from 1918–19 to 1930–31.

percentage of total degrees which were conferred by each unit, the data being for the total during a period of thirteen years from 1918–19 to 1930–31.

Over the entire period the departments here classi-

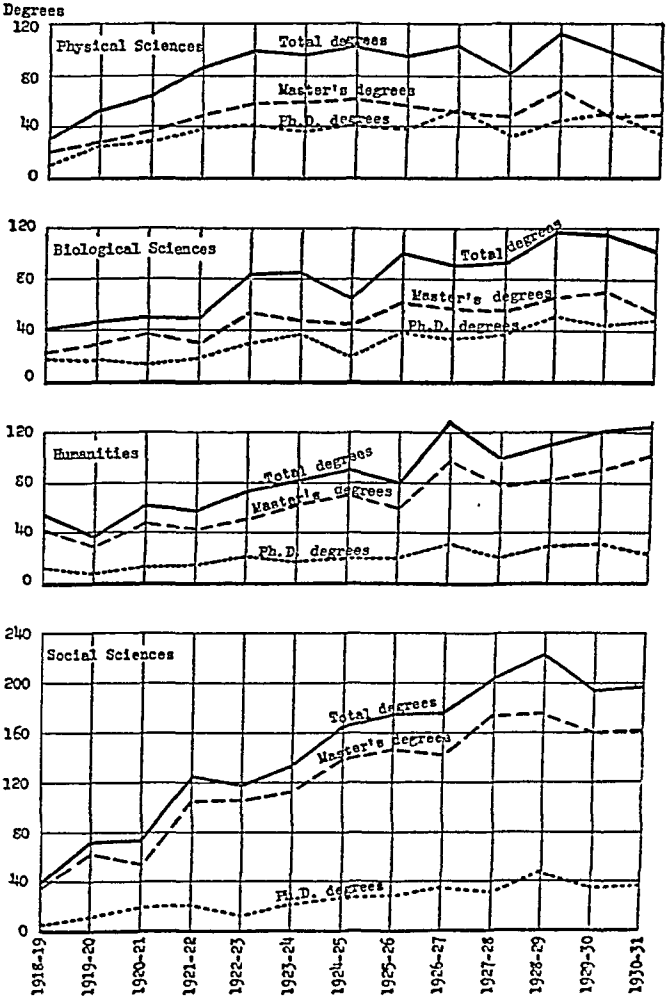


FIG. 26.—Total number of higher degrees of each type conferred in each division each year from 1918–19 to 1930–31.

fied in the Division of the Social Sciences conferred approximately one-third of all the graduate degrees issued. The Divisions of the Biological Sciences, the Humanities, and the Physical Sciences each conferred approximately one-sixth of all the graduate degrees. The professional schools conferred about one-seventh

TABLE 15

PERCENTAGE OF MASTER'S AND PH.D. DEGREES CONFERRED IN EACH DIVISION AND IN THE PROFESSIONAL SCHOOLS OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31

Division or Schools	Ph.D.	Master's	Ph.D. and Master's Combined	Weighted Total of Ph.D. and Master's*
Social Sciences	20	36	31	27
Physical Sciences	30	14	18	22
Biological Sciences	25	14	17	20
Humanities	16	20	19	18
Professional schools	9	16	15	13
Total University	100	100	100	100

*Weightings are in accordance with the plan outlined on p. 89.

of the total. The range in Ph.D. degrees was from 9 per cent, conferred by the professional schools, to 30 per cent, conferred by the Division of the Physical Sciences, while the range in master's degrees was from 14 per cent in the Divisions of the Biological Sciences and the Physical Sciences to 36 per cent in the Division of the Social Sciences. When a weighting of three was given the Ph.D. degree and a weighting of one

was given the master's degree in getting a combined total, the Division of the Social Sciences still comprised the largest percentage of graduate degrees conferred, although the difference between it and the other divisions was not so marked. When the weighted totals were used, the Divisions of the Physical Sciences and the Biological Sciences are seen to have had increased percentages of graduate degrees conferred; there was little change in the Division of the Humanities and the professional schools.

Figure 27 presents a graphic representation of the percentage of the total number of graduate degrees conferred in each division and in the professional schools for each year from 1918–19 to 1930–31. Figure 28 shows the same data for the total Ph.D. degrees alone, and Figure 29 presents similarly the percentage of the total number of master's degrees conferred in each division and in the professional schools. The percentage of degrees issued in each division fluctuated so much from one year to the next that it was necessary in these figures to smooth the data in order that the trends might be more clearly discernible.[9]

It is evident from Figures 27, 28, and 29 that the Divisions of the Biological Sciences and the Humanities were the only divisions in which no marked

[9] The method of smoothing was described on p. 89. See Tables 61, 62, and 63 in the Appendix for the unsmoothed data upon which Figures 27, 28, and 29 were based.

change occurred in the percentage of degrees conferred during the period considered. The decrease in the percentage of graduate degrees conferred in the Division of the Physical Sciences was due to a decline

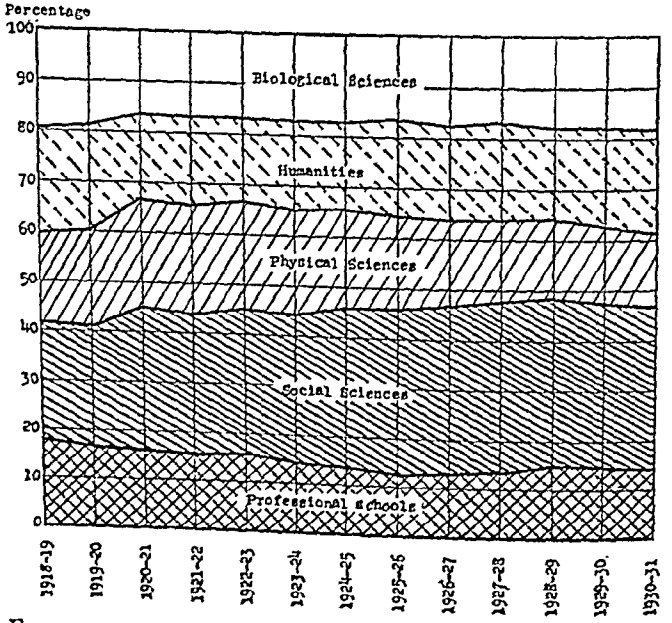


FIG. 27.—Percentage of total graduate degrees conferred in each division and in the professional schools each year from 1918–19 to 1930–31.

in the percentages of both Ph.D. degrees and master's degrees granted in that Division. The marked increase in the percentage of graduate degrees conferred in the Division of the Social Sciences was due to a rise in the percentages of both Ph.D. and master's

degrees granted, especially of the latter. The declining percentage of total graduate degrees granted in the professional schools, however, resulted from a decline in the percentage of master's degrees alone, an

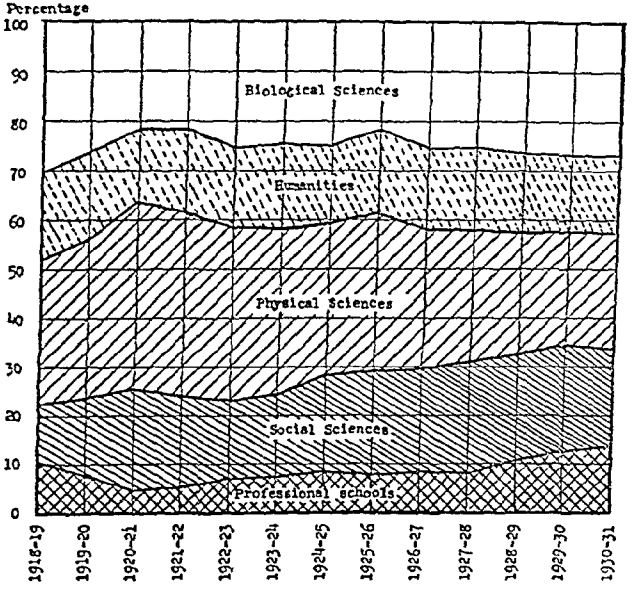


FIG. 28.—Percentage of total Ph.D. degrees conferred in each division and in the professional schools each year from 1918–19 to 1930–31.

increasing percentage of Ph.D. degrees being granted, particularly in recent years.

Table 16 presents a comparison of the number of graduate degrees of each type issued during the first half and the last half of the twelve-year period from

1918–19 to 1929–30 in each of the divisions and the professional schools.

These data show that in the four divisions the largest percentage increase over the twelve-year period

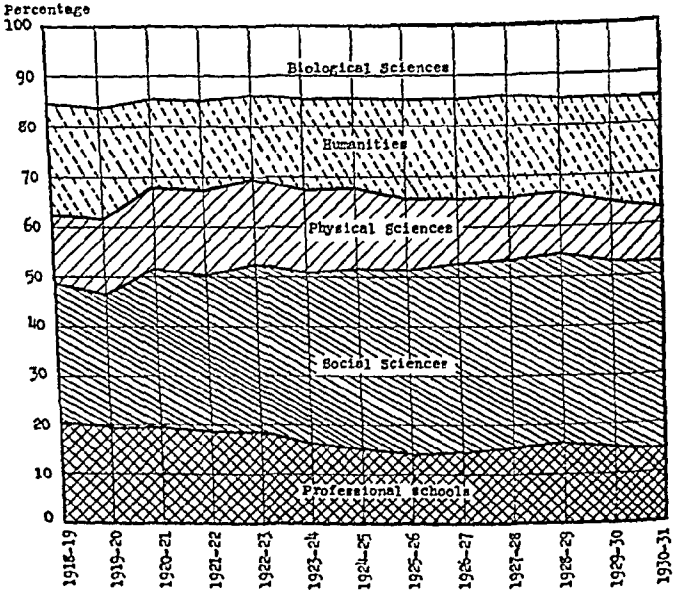


FIG. 29.—Percentage of total master's degrees conferred in each division and in the professional schools each year from 1918–19 to 1930–31.

was in the Division of the Social Sciences, and the smallest percentage increase was in the Division of the Physical Sciences. This was true for both the master's and the Ph.D. degrees. The professional schools had a higher percentage of increase than any of the divisions in total Ph.D. degrees. The increase

in the master's degrees in the professional schools was relatively small, however, the percentage of increase being approximately the same as that in the division

TABLE 16

PERCENTAGE OF INCREASE IN TOTAL NUMBER OF GRADUATE DEGREES (A.M., S.M., AND PH.D.) CONFERRED IN THE DIVISIONS AND THE PROFESSIONAL SCHOOLS OVER THE FIRST AND SECOND HALF OF A TWELVE-YEAR PERIOD FROM 1918–19 TO 1929–30

Division or Schools	Degree	Total Number of Degrees From		Percentage of Increase
		1918–19 to 1923–24	1924–25 to 1929–30	
Biological Sciences	Total	357	586	64.15
	Master's	222	360	62.16
	Ph.D.	135	226	67.41
Humanities	Total	366	629	71.86
	Master's	279	477	70.97
	Ph.D.	87	152	74.71
Physical Sciences	Total	430	590	37.21
	Master's	249	330	32.53
	Ph.D.	181	260	43.65
Social Sciences	Total	558	1,135	103.41
	Master's	472	935	98.09
	Ph.D.	86	200	132.56
Total divisions	Total	1,711	2,940	71.83
	Master's	1,222	2,102	72.01
	Ph.D.	489	838	71.37
Professional schools	Total	324	469	44.75
	Master's	286	379	32.52
	Ph.D.	38	90	136.84

with the lowest percentage of increase, the Division of the Physical Sciences. It is interesting to note that in each of the divisions the percentage of increase in master's degrees during the two periods was very similar to the percentage of increase in Ph.D. degrees, but that in the professional schools the percentage of increase in Ph.D. degrees was approximately four times the increase in master's degrees. This finding emphasizes the development that has taken place in the higher levels of graduate study in the professional schools.

Figure 30 shows the percentage of higher degrees that were Ph.D. degrees and the percentage that were master's degrees for each of the two six-year periods shown in Table 16.

This figure shows that the proportion of master's and Ph.D. degrees remained relatively constant for all the divisions during the two periods studied. The greatest shifts among the divisions were in the Social Sciences and the Physical Sciences, but these changes amounted to only about 2 per cent. In the professional schools, however, the Ph.D. degrees constituted a much larger percentage of the total graduate degrees during the second six years than during the first six years of this period.

HIGHER DEGREES, CLASSIFIED BY DEPARTMENTS

This section deals with the higher degrees issued by the University of Chicago over a thirteen-year

period in the various departments of the Graduate Schools of Arts, Literature, and Science. Degrees issued in the professional schools are not included in the data of this section.

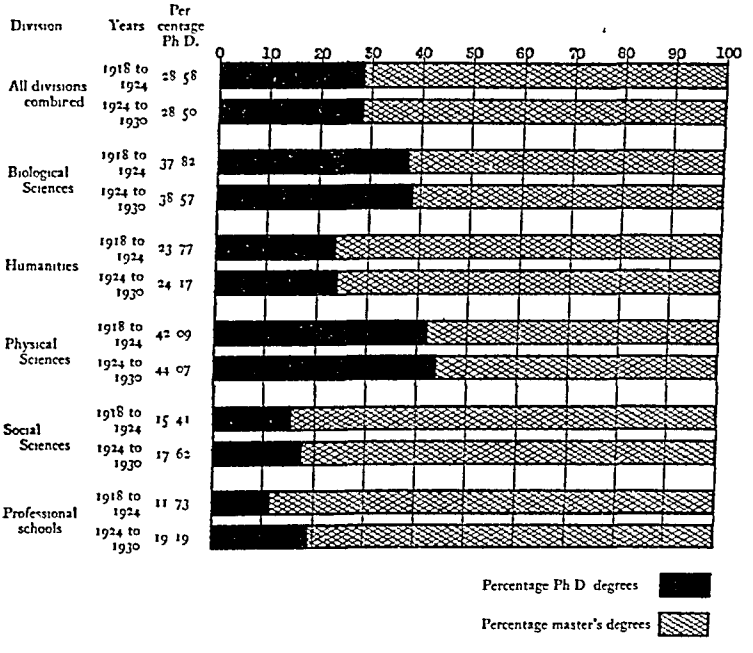


FIG. 30.—Percentages of total graduate degrees that were master's and doctor's for each division and the professional schools, for each of two six-year periods, from 1918–19 to 1923–24 and from 1924–25 to 1929–30.

Table 17 shows the number of higher degrees of each type conferred in each department during the period from 1918–19 to 1930–31.

In this table the departments are arranged in order

TABLE 17

DEPARTMENTAL DISTRIBUTION OF DEGREES CONFERRED OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31 IN THE GRADUATE SCHOOLS OF ARTS, LITERATURE, AND SCIENCE

Department	Ph.D.	Master's	Ph.D. and Master's Combined
Education	91	905	996
History	76	454	530
English	75	391	466
Chemistry	183	217	400
Mathematics	104	169	273
Botany	112	154	266
Home Economics	27	215	242
Romance	47	181	228
Physics	91	98	189
Sociology and Anthropology	66	110	176
Psychology	70	60	130
Latin	24	99	123
Physiology	46	65	111
Economics	56	53	109
Zoölogy	47	62	109
Geology	57	47	104
Geography	21	81	102
Philosophy	42	45	87
Hygiene and Bacteriology	37	41	78
Political Science	32	46	78
Germanic	23	51	74
Physiological Chemistry	33	20	53
Greek	19	19	38
Anatomy	26	10	36
Astronomy	18	16	34
Art	.....	33	33
Oriental Languages	14	12	26
Comparative Literature	4	13	17
Pathology	9	8	17
Comparative Religion	6	8	14

TABLE 17—*Continued*

Department	Ph.D.	Master's	Ph.D. and Master's Combined
Comparative Philology	6	4	10
New Testament	3	1	4
Medicine*	1	.....	1
Pediatrics*	.....	1	1
Surgery*	1	.....	1
Total	1,467	3,689	5,156

* The Departments of Medicine, Pediatrics, and Surgery were not established until the latter part of the period.

of the total number of graduate degrees conferred in the thirteen-year period. It will be noted that there was a wide variation in the number of degrees issued in the several departments. The number of graduate degrees in one department (Education) was almost twice that of any other department. Almost half (46 per cent) of the total number of degrees were in four departments (Education, History, English, and Chemistry). There were thirteen departments whose combined total of graduate degrees amounted to less than 5 per cent of the grand total. Seven of the departments listed at the top of the table each had a larger percentage of the total number of graduate degrees than the combined total for the thirteen departments having the smallest numbers of degrees.

The range in the distribution of Ph.D. degrees was large, but was somewhat smaller than that for total graduate degrees. Furthermore, the rank order of

the departments was different in the distribution of Ph.D. degrees from that in the distribution of total degrees. The Department of Chemistry had much the largest number of Ph.D. degrees. Approximately half the total number of the Ph.D. degrees were conferred in seven departments (Chemistry, Botany, Mathematics, Education, Physics, History, and English). There were eleven departments whose combined total of Ph.D. degrees was less than 5 per cent of the grand total.

The range in the distribution of master's degrees was greater than that for the Ph.D. degrees. One department (Education) had approximately twice the number found in the next largest department (History). Three departments (Education, History, and English) had almost half (47 per cent) of the total number of master's degrees. There were fifteen departments whose combined total of master's degrees formed only 5 per cent of the grand total.

It is apparent from these data that a number of the departments as maintained at the end of the period studied were rather small units so far as graduate work leading to higher degrees was concerned. Some question should probably be raised as to the wisdom of continuing as separate units some of the departments in which such small numbers of graduate degrees are granted. There may be other reasons for the maintenance of some of these units as separate departments, but from the standpoint of the output

of graduate degrees it would seem feasible to combine some of the smaller departments which offer work in closely related fields and thus simplify the administrative organization for graduate work. In fact, the organization has been somewhat simplified by the New Plan at the University of Chicago whereby the graduate degrees are granted by the divisions. Within the various divisions, however, the departments still have a large measure of control. Perhaps the introduction of the divisional organization may result in reducing the number of separate departments maintained. The suggestion for combining separate departments into larger units is not out of accord with the practice of the University in the past. During the past twenty-five or thirty years there have been a number of such changes in the departmental organization of the University.

It is evident from Table 17 that the departments varied with regard to the proportion of total graduate degrees conferred in each that were master's and Ph.D. degrees. Figure 31 gives a graphic representation of the percentage distribution between master's and Ph.D. degrees in each department. Only those departments granting ten or more graduate degrees during the period are included in the figure.

This figure shows a striking variation among the departments in the percentage of their graduate degrees that were master's and Ph.D. degrees. It will be observed that in three departments (Anatomy,

Physiological Chemistry and Pharmacology, and Comparative Philology) 60 per cent or more of the

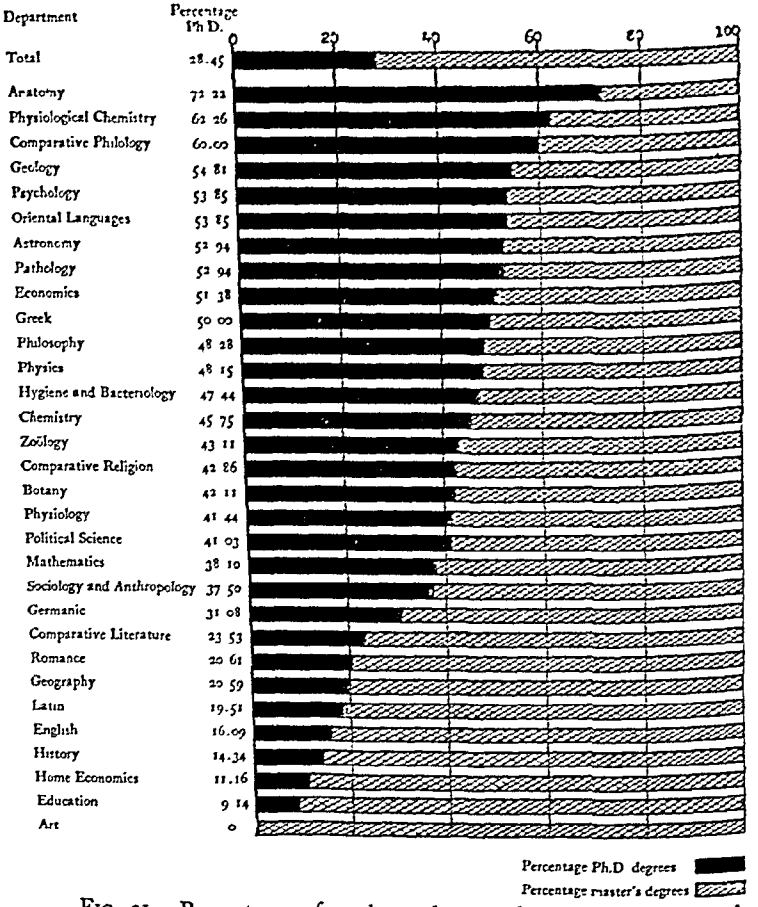


FIG. 31.—Percentages of graduate degrees that were master's and doctor's, by departments, over a thirteen-year period from 1918–19 to 1930–31. Only those departments are included that granted ten or more higher degrees during the period.

degrees were Ph.D. degrees, while in one department (Art) all of the degrees were master's.

The average for all departments combined shows that 28.45 per cent of the graduate degrees conferred during the thirteen-year period were Ph.D. degrees. However, twenty-two of the thirty-one departments shown on the chart had percentages larger than the average for all departments combined. The reason for this is that the departments having the largest number of graduate degrees generally tend to have a lower than average proportion of Ph.D. degrees. In general, departments with high proportions of Ph.D. degrees are those which confer a relatively small number of graduate degrees. Exceptions to this general tendency may be noted in the case of the Departments of Sociology and Anthropology, Psychology, Economics, Philosophy, Physics, and Chemistry, each of which conferred a relatively large percentage of Ph.D. degrees and also conferred a fairly large total of graduate degrees, and in the case of the Departments of Art, Hygiene and Bacteriology, and Comparative Literature, each of which conferred a relatively small percentage of Ph.D. degrees and also conferred a small total number of graduate degrees.

Figure 32 shows a comparison by departments of the number of graduate degrees issued in each half of the twelve-year period from 1918–19 to 1929–30.[10]

[10] It should be noted that Figure 32 covers a twelve-year period, while Tables 61, 62, and 63 in the Appendix present data for a thirteen-year period.

The original data from which Figure 32 was drafted show that three departments conferred fewer gradu-

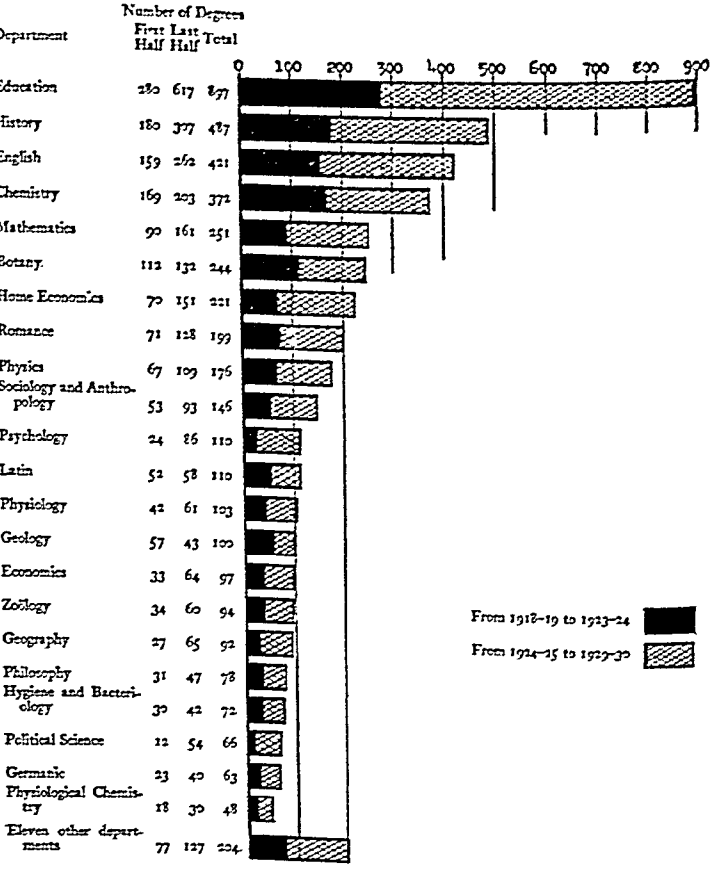


FIG. 32.—Number of graduate degrees conferred in various departments during each half of a twelve-year period from 1918–19 to 1929–30.

ate degrees during the last six-year period than during the first period. Two of these three departments were relatively small, and are included in the eleven departments shown in the one bar at the bottom of the chart. There were five departments, however (Political Science, Psychology, Geography, Education, and Home Economics), which were relatively large (each granting a total of more than sixty graduate degrees), each of which granted more than twice as many graduate degrees during the second six-year period as during the first six years. For all departments combined, the number of graduate degrees issued during the second six years was 72 per cent greater than the number conferred during the first six years.

Table 18 shows the percentages of the total graduate degrees that were Ph.D. degrees in the various departments of the Graduate Schools of Arts, Literature, and Science during each of the two six-year periods from 1918–19 to 1923–24 and from 1924–25 to 1929–30.

The data of Table 18 may be compared to the distribution for the entire period which was given in Figure 31. It should be noted, however, that the data of Table 18 cover a total of twelve years, that is, two periods of six years each, while the data of Figure 31 cover thirteen years.

It is apparent from Table 18 that the distribution remained about the same in the University as a whole during the two six-year periods. A number of the de-

TABLE 18

PERCENTAGE OF TOTAL GRADUATE DEGREES THAT WERE PH.D. DEGREES CONFERRED BY VARIOUS DEPARTMENTS OF THE GRADUATE SCHOOLS OF ARTS, LITERATURE, AND SCIENCE DURING EACH HALF OF A TWELVE-YEAR PERIOD FROM 1918–19 TO 1929–30

Department	Percentage of Ph.D. Degrees From	
	1918–19 to 1923–24	1924–25 to 1929–30
Medicine	*	100.00
Anatomy	66.67	73.68
Physiological Chemistry	44.44	70.00
Astronomy	45.00	66.67
Comparative Philology	50.00	66.67
Geology	49.12	62.79
Economics	33.33	57.81
Oriental Languages	100.00	57.14
Psychology	58 33	53.49
Philosophy	48 39	53.19
New Testament	100.00	50.00
Chemistry	41.42	48.77
Hygiene and Bacteriology	53.33	47.62
Political Science	41 67	46.30
Physiology	30.95	45.90
Physics	53.73	45.87
Botany	40.18	40.91
Greek	64.29	40.91
Zoölogy	44.12	40.00
Mathematics	36.67	39.13
Sociology and Anthropology	37.74	38.71
Comparative Religion	0.00	36.36
Germanic	39.13	30.00
Comparative Literature	0.00	28.57
Geography	18.52	23.08
Latin	19.23	22.41

* No higher degrees issued.

TABLE 18—*Continued*

Department	Percentage of Ph.D. Degrees From	
	1918–19 to 1923–24	1924–25 to 1929–30
Romance	23.94	19.53
English	11.95	17.94
History	8.89	16.94
Home Economics	8.57	11.92
Education	12.14	8.10
Art	0.00	0.00
Pathology	66.67	0.00
Total Arts, Literature, and Science	28.58	28.50

partments showed rather significant changes, however. Twelve of the thirty-three departments included in this table showed changes of less than 5 per cent between the two periods in the distribution of graduate degrees. Nine departments showed increases of more than 10 per cent and four showed decreases of more than 10 per cent in the percentage which Ph.D. degrees were of the total graduate degrees during the two periods. For the most part, the departments showing the greatest change in the proportions of the two degrees were those in which relatively few degrees were conferred. This indicates that the fluctuation arose from the small number of cases rather than from any important change in departmental policy or in the interest of the graduate students working in the various departments.

CHAPTER V

GROWTH IN THE SIZE OF THE INSTRUCTIONAL STAFF

The number of members on the instructional staff is an item difficult to ascertain with accuracy in almost any educational institution. There is usually a considerable number of persons connected with the institution whose "faculty status" is somewhat indefinite. For the purposes of the present study consideration of the faculty of the University of Chicago is limited to those holding the rank of instructor or higher. All ranks in the University above that of assistant are included in this study with the exception of lecturers, professors emeritus, and research associates. Persons whose titles designated them as "clinical," in the Graduate School of Medicine of the Ogden Graduate School of Science, are included in the study. There have been arbitrarily excluded from the study the entire faculty of Rush Medical College, administrative officers in the University Libraries who held academic rank, and the members of the University faculty whose only connection was with University College or the Home-Study Department. These exclusions were made in an endeavor to include only the full-time teaching staff; practically all the members of the

teaching staff included in this study were on a full-time basis with the University of Chicago at the time of gathering the data.

A second difficulty faced in the present study, which is concerned with trends in the growth of the instructional staff, relates to the departmental and divisional allocation of members of the faculty. In some cases instructors are members of the staff of more than one department or division. In other cases staff members give instruction for one department, although their titles are assigned in another department. In some cases the department in which the salary budget of the faculty member is assigned is not the one to which the subject matter of his courses is allocated. The large number of shifts in the organization of departments and schools during the history of the University has been another factor making it difficult to trace the growth of the staffs in the various units of the institution. A considerable number of arbitrary allocations has had to be made in the present study in order to render the data as comparable as possible. Even with these shifts it was not always possible to set up the data on a basis strictly comparable to that used in preceding chapters of this volume. For that reason, the comparisons between the growth in the staff and the growth in the other elements of the University must be limited to those presented in this and subsequent chapters.

TOTAL MEMBERSHIP OF THE FACULTIES

Table 19 presents data showing the total membership of the faculty of the rank of instructor or above for selected years from 1903–4 to 1930–31. The years are so chosen as to give a picture of the trend in the number of faculty members. The data are tabulated separately for each of the departments and professional schools and also for the total of the entire University. Data are not included for Home-Study and University College.

This table shows a steady increase in the total number of faculty members in the University of Chicago after 1908–9. The rate of increase in number of faculty members speeded up after 1918–19, and was especially rapid after 1923–24. The number of members on the faculty in 1930–31 was slightly more than twice as large as it was in 1913–14, just seventeen years previously. Of the total numerical increase in the University faculty members over the period studied, one-third is accounted for by the increase in the staff of the Graduate School of Medicine of the Ogden Graduate School of Science. The other professional schools account for only a small proportion (11 per cent) of the increase, even though three new professional schools were established during this period. The departments of the Colleges and Schools of Arts, Literature, and Science (excluding the medical departments) account for slightly more than half (55 per cent) of the total increase.

TABLE 19

TOTAL MEMBERSHIP OF THE FACULTY OF THE RANK OF INSTRUCTOR OR ABOVE, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Department or Professional School	1903–4	1908–9	1913–14	1918–19	1923–24	1928–29	1930–31
Philosophy	5	4	4	5	6	7	7
Psychology	2	2	3	6	6	7	8
Education	4	3	13	16	17	21	24
Economics	8	7	7	17	7	11	14
Political Science	3	4	4	5	6	10	12
History	12	10	12	10	12	19	21
Art	2	2	4	5	4	6	8
Sociology and Anthropology	9	10	6	5	6	9	11
Home Economics	3	3	9	12	13	15	18
Comparative Religion	3	1	1	1	1	1	1
Oriental Languages	8	9	8	8	8	11	16
New Testament	3	5	5	5	6	6	6
Comparative Philology	1	2	2	2	2	2	3
Greek	4	4	4	3	4	4	5
Latin	7	7	8	6	5	6	6
Romance	8	8	15	18	21	18	22
Germanic	8	12	12	10	6	10	11
English	19	17	16	21	21	23	29
Comparative Literature	2	2	3	3	2	2	2
Mathematics	7	7	8	8	9	10	11
Astronomy	9	8	9	9	9	10	10
Physics	6	5	6	10	8	12	15
Chemistry	6	6	11	10	13	12	16
Geology	7	10	8	8	9	8	9
Geography	1	2	5	5	7	7	7
Botany	6	6	7	9	8	10	10
Zoölogy	6	7	6	5	7	7	9
Physical Culture	3	3	4	7	9	12	13
Military Science	.....	.....	.....	.....	2	4	4
Anatomy	9	7	8	9	11	12	12
Physiology	3	4	5	4	5	7	11
Physiological Chemistry	2	3	2	2	3	7	6
Pediatrics	.....	.....	.....	.....	.....	.....	8

TABLE 19—*Continued*

Department or Professional School	1903–4	1908–9	1913–14	1918–19	1923–24	1928–29	1930–31
Pathology	4	5	6	8	12	15	16
Medicine	6	6	4	3	3	29	42
Hygiene and Bacteriology	2	2	3	5	7	9	10
Surgery	2	1	1	1	2	16	23
Divinity School	15	13	11	8	8	15	14
Law School	14	12	10	9	8	10	14
Graduate School of Medicine	28	28	29	32	43	95	128
School of Education	14	11	9	7	6	8	8
Department of Education	4	3	13	16	17	21	24
School of Business	.....	.....	.....	.....	23	25	23
School of Social Service Administration	.....	.....	.....	.....	4	12	14
Graduate Library School	.....	.....	.....	.....	.....	4	4
Total Arts, Literature, and Science*	204	205	238	268	283	383	464
Total professional schools†	29	25	21	17	43	66	69
Grand total (net), entire University	233	230	259	285	326	449	533

* Including medical courses and all courses in education.
† Not including medical courses or courses in education.

COMPARISON OF RATE OF GROWTH IN FACULTY AND IN STUDENT-MAJORS

It is important to compare the rate of growth in the number of faculty members with the rate of growth in other elements of the University to find out whether the increases in the staff were proportional to the other increases that took place. It seems that the

most satisfactory figure to use in comparing the rate of increase in the faculty with the rate of increase in student enrolments is that of the student-majors,[1] since this measure takes into account the amount of course work each student carries. Because of the labor involved in computing the number of student-majors, data are presented for only three years, at ten-year intervals, so as to show trends. Table 20 shows the number of student-majors of credit per faculty member of the rank of instructor or above in the years 1908–9, 1918–19, and 1928–29. In this tabulation the data are set up in terms of the present divisional organization of the University, even though this organization was not in effect during the years covered by the study.

It must be recognized that teaching classes and producing student-majors of credit is not the only function of the instructional staff at the University of Chicago. For example, the research activities of the staff are not reflected directly in the production of student-majors of credit. However, the comparison of the number of student-majors per faculty member offers the opportunity to compare the rate of increase in the number of students to be taught with the rate of increase in the instructional staff.

[1] It will be recalled that in a preceding chapter the growth of student-majors has been discussed and this term has been defined as the credit received by one student in a course counting as 1 major of credit. Thus, nine student-majors of credit is the equivalent of one full-time student in the University for three quarters of the academic year.

It will be noted from Table 20 that the average number of student-majors per faculty member for the entire University showed no variation over the period covered by this study. In other words, growth in the

TABLE 20

AVERAGE NUMBER OF STUDENT-MAJORS OF CREDIT PER FACULTY MEMBER OF THE RANK OF INSTRUCTOR OR ABOVE IN 1908–9, 1918–19, AND 1928–29

Division or Professional Schools	1908–9	1918–19	1928–29
Social Sciences	158	161	181*
Humanities	108	105	141
Physical Sciences	124	138	126
Biological Sciences	107	114	68
Arts, Literature, and Science	127	126	120†
Professional schools	116	100	155*
Entire University	126	125	125†

* There were 707 student-majors of instruction which in preceding tables were counted in the Division of the Social Sciences but in this table and the succeeding tables of this chapter were included with the professional schools. This was done to make the data comparable, because although the student-majors were in the Department of Economics, the salary budget for this instruction was in the School of Business.

† Student-majors in the general survey courses were included in the total, but not included in any of the divisions, as the courses cut across divisional lines.

number of members on the instructional staff kept pace almost exactly with the teaching load as measured by the number of student-majors of credit. While this was true for the University as a whole, many variations may be noted in the averages for the different units of the institution. The teaching load was lighter

in the first two years studied and heavier in the last year in the professional schools than in the departments in the Colleges and Schools of Arts, Literature, and Science. There was only a slight change in the relative positions of the professional schools and the Colleges and Schools of Arts, Literature, and Science from 1908–9 to 1918–19, but during the next decade the average load in the professional schools increased sharply while that in the departments of Arts, Literature, and Science decreased. The expansion in the south-side medical school, the departments of which are a part of the Division of the Biological Sciences of the Schools of Arts, Literature, and Science, was an important cause of this condition. In other words, the faculty in the professional schools did not increase as rapidly as the student load, while in Arts, Literature, and Science the faculty increased more rapidly than the student load.

It may be assumed that nine student-majors represent the equivalent of one full-time student in residence for an academic year of three quarters. On this basis the student-faculty ratio for the University as a whole remained at approximately 14 to 1 throughout the period of this study. This figure neglects the relatively small amount of teaching done by those below the rank of instructor and by visiting professors brought in for Summer quarters; the student-faculty ratio would be lowered only a very slight amount by the inclusion of these groups.

Another method of viewing the relative increases in instructional staff and in student-teaching load is by computing the percentages of increase or decrease over the period for both items. If increases in faculty

TABLE 21

PERCENTAGE OF INCREASE OR DECREASE FROM 1908–9 TO 1928–29 IN STUDENT-MAJORS AND IN FACULTY MEMBERS

Division or Professional School	Percentage of Increase or Decrease In	
	Student-Majors	Faculty Members
Humanities	50	32
Biological Sciences	90	198
Social Sciences	98	73
Physical Sciences	70	66
Divinity	205	15
Law	126	— 17
Total Arts, Literature, and Science	77	87
Total Professional schools	254	164
Entire University	95	95

have kept pace exactly with increases in student-majors, the percentages of increase for both should be equal. The data showing the percentages of increase for these two items are presented in Table 21. Data for the professional schools which have been added to the University since 1908–9 are included in the totals of the table.

In this table, as in the preceding one, it is shown

that for the University as a whole the increases in student-majors of teaching were exactly matched by increases in the number of faculty members. The size of the instructional staff increased faster than the number of student-majors in the Colleges and Schools of Arts, Literature, and Science, but the opposite was true for the professional schools.

The method of comparison by the percentages of increase is faulty in that it tends to assume that conditions in the basal year, that is, 1908–9, were perfect. As a matter of fact, some of the unequal increases may be due to corrections of maladjustments that existed in the basal year. For that reason, the comparison on the basis of the number of student-majors per faculty member must be considered in connection with the comparison on the basis of the percentage of increases in student-majors and faculty members.

It is unfortunate that data could not be presented at intervals more closely spaced and carried down more nearly to the present time. These intermediate trends may be approximated, however, from the known relationships between student enrolments and student-majors, as has been demonstrated in a preceding section of this volume. From these data it seems entirely probable that the number of student-majors per faculty member reached a higher point between the years 1918–19 and 1928–29 than is shown for either of these two years. It is known that enrolments increased up to this time, but have decreased

somewhat since that time. It seems, therefore, highly probable that since 1928–29 there has been a rather marked decline in the number of student-majors per faculty member. The number of faculty members increased 19 per cent between 1928–29 and 1930–31; student enrolments declined approximately 5 per cent during the same period. It is probable, therefore, that at present the number of student-majors per faculty member is at a lower point than it was in 1928–29.

RANKS OF FACULTY MEMBERS

Another item of interest is the distribution of faculty members according to the various academic ranks. Table 22 shows the percentage of the faculty holding each of the four academic ranks—professor, associate professor, assistant professor, and instructor—for selected years from 1903–4 to 1930–31. The table deals only with the totals for the Colleges and Schools of Arts, Literature, and Science, for the professional schools, and for the entire University. The details in the trends in faculty distribution by ranks in the several divisions are shown in Figures 33, 34, 35, and 36.

Table 22 shows that in the University as a whole there were no important changes in the distribution of faculty members according to rank during the period covered by the study. There was a tendency for the professional schools to have a higher percentage of their staff members at the rank of professor and a lower percentage at the rank of instructor than was

true for the departments of Arts, Literature, and Science. In interpreting this fact it must be remembered

TABLE 22

DISTRIBUTION OF FACULTY MEMBERS BY RANKS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Division or Professional Schools	Year	Total Number of Faculty Members	Percentage of Faculty Members with Rank Of			
			Professor	Associate Professor	Assistant Professor	Instructor
Arts, Literature, and Science	1903–4	204	37	17	20	26
	1908–9	205	35	22	21	22
	1913–14	238	37	20	18	25
	1918–19	268	38	16	20	26
	1923–24	283	42	18	17	23
	1928–29	383	38	15	25	22
	1930–31	464	37	17	22	24
Professional schools	1903–4	29	76	4	10	10
	1908–9	25	72	8	12	8
	1913–14	21	80	10	10	.....
	1918–19	17	70	12	12	6
	1923–24	43	23	21	19	37
	1928–29	66	44	17	27	12
	1930–31	69	48	30	10	12
Entire University	1903–4	233	42	15	19	24
	1908–9	230	39	20	20	21
	1913–14	259	40	19	18	23
	1918–19	285	40	16	20	24
	1923–24	326	40	18	17	25
	1928–29	449	39	16	25	20
	1930–31	533	39	19	20	22

that the work of the professional schools is very largely at the graduate level. Because of the advanced na-

ture of the work it may, therefore, be assumed that a larger percentage of the faculty would necessarily hold a higher academic rank.

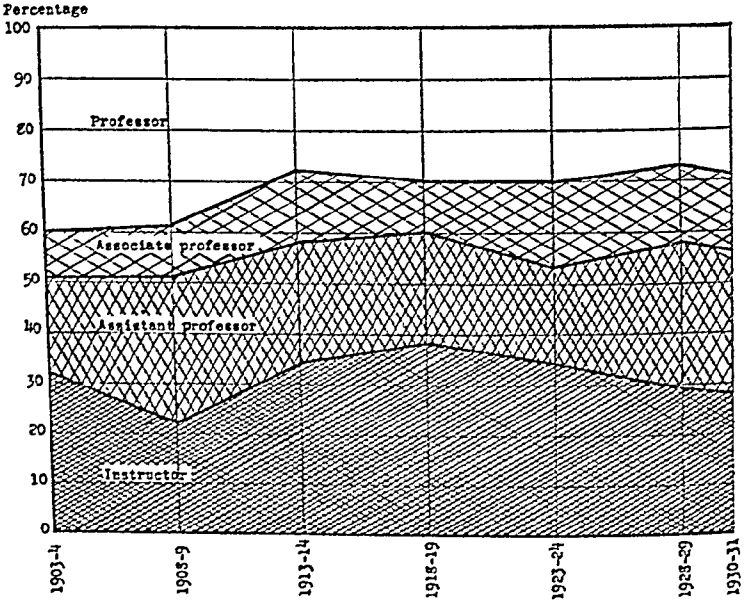


FIG. 33.—Percentage distribution of total faculty members by ranks in the Division of the Biological Sciences, for selected years from 1903–4 to 1930–31.

The figures which show the trends for the various divisions indicate that, although the University as a whole was rather stable in its distribution of faculty members by ranks, the various units had wide fluctuation in this matter. These fluctuations did not seem to follow any general tendency. In all divisions those

holding the rank of professor comprised the largest percentage at both the beginning and the close of the period. The Division of the Biological Sciences was

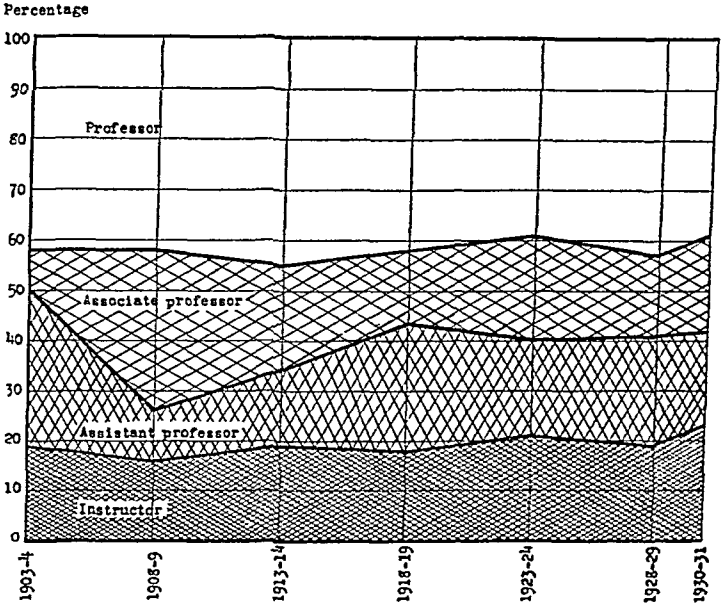


FIG. 34.—Percentage distribution of total faculty members by ranks in the Division of the Physical Sciences, for selected years from 1903–4 to 1930–31.

the only one in which the percentage of professors was not larger consistently over the entire period than the percentage of any other rank. As a rule the second largest group of faculty members comprised those with the rank of instructor. The Division of the Social Sciences was an important exception to this gen-

eral tendency. The percentages of associate and assistant professors were typically about the same for all divisions, but the Division of the Biological Sciences had a much larger proportion of assistant professors than of associate professors.

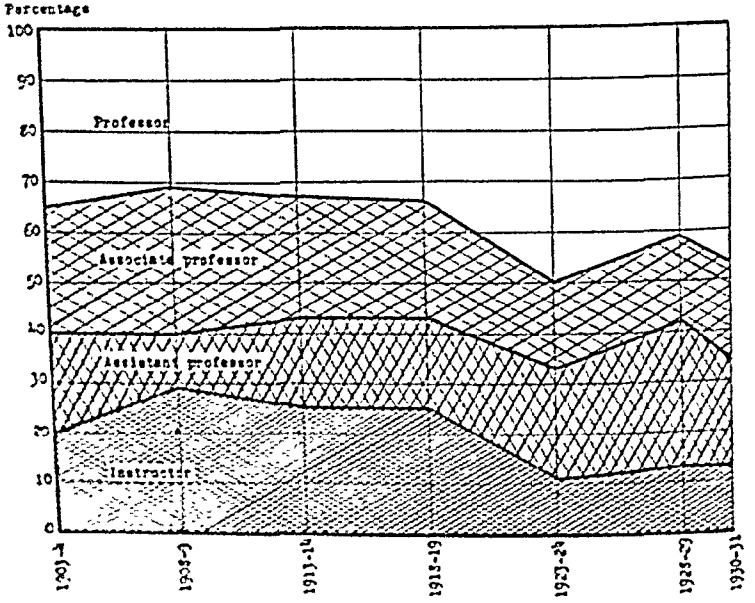


FIG. 35.—Percentage distribution of total faculty members by ranks in the Division of the Social Sciences, for selected years from 1903-4 to 1930-31.

The trends in the distribution of faculty members according to rank may reflect basically the policies of the University regarding the assignment of rank. In the trends for the various units of the University,

however, a disturbing factor is the availability of suitable staff members for the higher ranks. Possibly this is a factor causing much of the variability within the various divisions in the percentage of staff members at the highest rank.

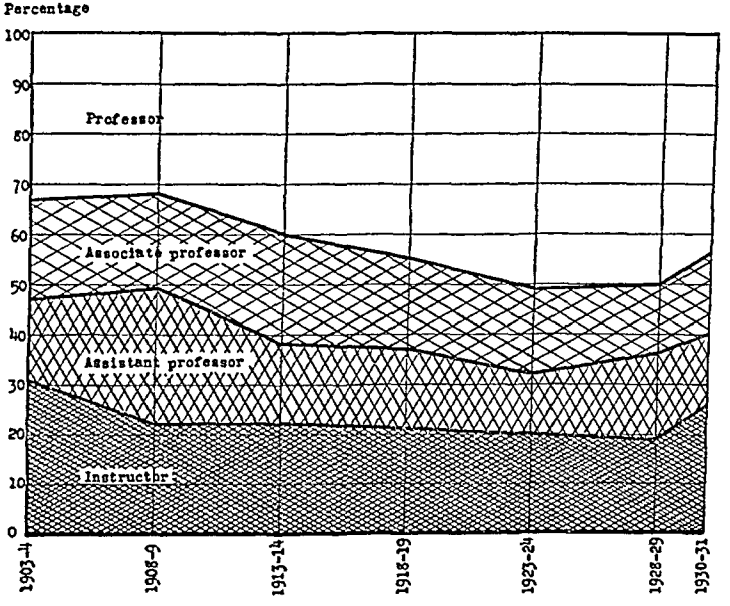


FIG. 36.—Percentage distribution of total faculty members by ranks in the Division of the Humanities, for selected years from 1903–4 to 1930–31.

INSTRUCTIONAL-SALARY BUDGET

It is important to study not only the trends in the number of faculty members and their distribution by ranks but also the trends in the instructional-salary

budget. Table 23 presents data showing the salary budget for faculty members of the rank of instructor or above for the years 1908–9, 1918–19, 1928–29, and 1930–31.

TABLE 23

SALARY BUDGET FOR FACULTY MEMBERS OF THE RANK OF INSTRUCTOR OR ABOVE IN 1908–9, 1918–19, 1928–29, AND 1930–31

Division or Professional Schools	1908–9	1918–19	1928–29	1930–31	Percentage of Increase from 1908–9 to 1930–31
Biological Sciences	$ 98,573	$122,618	$ 472,008	$ 614,862	523
Humanities	179,926	234,337	434,143	472,026	162
Physical Sciences	109,559	130,659	268,465	327,800	199
Social Sciences	109,252*	178,375*	339,115	406,411	272
Arts, Literature, and Science	$497,310	$665,989	$1,513,731	$1,821,099	266
Professional schools	$ 65,794	$ 79,015	$ 323,383	$ 369,756	462
Entire University	$563,104	$745,004	$1,837,114	$2,190,855	289

* The salary budget for the Department of Home Economics was included in the budget for the School of Education for these years and the data cannot be properly reallocated.

This table shows that there have been large increases in the total faculty-salary budget. The increases in the professional schools were relatively much larger than those in the departments of Arts, Literature, and Science, but the largest increase in

any unit shown in the table was in the Division of the Biological Sciences.

The data for the total instructional-salary budget are meaningful only when related to the number of faculty members. Table 24 presents data showing the faculty-salary expenditures per faculty member of the

TABLE 24

FACULTY-SALARY EXPENDITURES PER FACULTY MEMBER OF THE RANK OF INSTRUCTOR OR ABOVE IN 1908–9, 1918–19, 1928–29, AND 1930–31

Division or Professional Schools	1908–9	1918–19	1928–29	1930–31
Biological Sciences	$2,143	$2,078	$3,301*	$3,638*
Humanities	2,465	2,694	4,522	4,069
Physical Sciences	2,883	2,613	4,261	4,553
Social Sciences	2,276	2,477	4,348	4,516
Arts, Literature, and Science	$2,426	$2,485	$3,984*	$4,020*
Professional schools	$2,632	$4,648	$4,900	$5,359
Entire University	$2,448	$2,614	$4,117*	$4,197*

* Three members of the faculty (two in Medicine and one in Surgery) who served without salary were not included in the base.

rank of instructor or above for the years 1908–9, 1918–19, 1928–29, and 1930–31.

This table shows that the faculty-salary budget at the University of Chicago increased much more rapidly than the number of faculty members. The increase in expenditures per faculty member was somewhat larger in the professional schools than in the departments of Arts, Literature, and Science.

It will be recognized that some of the increase in the faculty-salary budget may be accounted for by changes in the value of the dollar. Table 25 presents the data of Table 24 reduced to dollars of equivalent purchasing power, using 1913 as a base. By means of

TABLE 25

FACULTY-SALARY EXPENDITURES IN TERMS OF DOLLARS OF EQUAL PURCHASING POWER* (1913 BASE) PER FACULTY MEMBER OF THE RANK OF INSTRUCTOR OR ABOVE IN 1908–9, 1918–19, 1928–29, AND 1930–31

Division or Professional Schools	1908–9	1918–19	1928–29	1930–31
Biological Sciences	$2,372	$1,287	$1,854†	$2,284†
Humanities	2,729	1,668	2,539	2,555
Physical Sciences	3,192	1,618	2,393	2,859
Social Sciences	2,520	1,534	2,442	2,836
Arts, Literature, and Science	$2,686	$1,539	$2,312†	$2,524†
Professional schools	$2,914	$2,878	$2,752	$3,365
Entire University	$2,710	$1,619	$2,312†	$2,635†

* The index used is that of Carl Snyder, *Business Cycles and Measurements* (New York: Macmillan Co., 1927), pp. 286–87; also in *Harvard Review of Economic Statistics*, X (January, 1928), 40–52.

† Three members of the faculty (two in Medicine and one in Surgery) who served without salary were not included in the base.

an index number the average salary expenditures were changed to amounts representing the purchasing power of those salaries in 1913 dollars. The index used in reducing the data to dollars of equivalent purchasing power was that based on general price levels as compiled by Carl Snyder in *Business Cycles and Measurements* (1927), pages 286–87, and from the

Harvard Review of Economic Statistics, for January, 1928. The general price levels by Snyder represent averages for the calendar years from January to December, whereas the budgets for faculty salaries are computed for the fiscal years beginning July 1. Therefore, the price levels for the calendar years were averaged to secure the price levels for the fiscal years which begin on July 1.

This table shows that when the value of the dollar is taken into account, the faculty-salary budget at the University of Chicago failed to keep pace with the increases in the number of faculty members for the entire University. The professional schools showed an increase between 1908–9 and 1930–31 in the average amount available for faculty salaries per faculty member, but the departments of Arts, Literature, and Science showed a decrease. Only one of the four divisions (Social Sciences) showed an increase during the period. For the University as a whole the decrease in average salary payments per faculty member between 1908–9 and 1930–31 amounted to $75. It is important, therefore, to note that the resources of the University of Chicago in the period between 1908–9 and 1930–31 failed to provide increasing support for faculty salaries in terms of dollars of equal purchasing power commensurable with the increases that took place in the size of the instructional staff. Since 1918–19, however, there have been marked increases in salary expenditures per faculty member when con-

It will be recognized that some of the increase in the faculty-salary budget may be accounted for by changes in the value of the dollar. Table 25 presents the data of Table 24 reduced to dollars of equivalent purchasing power, using 1913 as a base. By means of

TABLE 25

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Division or Professional Schools	1908–9	1918–19	1928–29	1930–31
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an index number the average salary expenditures were changed to amounts representing the purchasing power of those salaries in 1913 dollars. The index used in reducing the data to dollars of equivalent purchasing power was that based on general price levels as compiled by Carl Snyder in *Business Cycles and Measurements* (1927), pages 286–87, and from the

in dollars of equal purchasing power as was done in the case of the average faculty salaries per member of the teaching staff. These data are presented in Table 27, which is similar to Table 26 except that the dollars are in terms of units of equivalent purchasing

TABLE 26

TOTAL FACULTY-SALARY EXPENDITURES PER STUDENT-MAJOR OF CREDIT IN 1908–9, 1918–19, AND 1928–29

Division or Professional Schools	1908–9	1918–19	1928–29
Biological Sciences	$21.33	$19.23	$54.30
Humanities	20.43	26.91	33.32
Physical Sciences	25.43	22.15	37.65
Social Sciences	16.09*	19.17*	25.36
Arts, Literature, and Science	$20.26	$21.89	$35.72
Professional schools	$24.98	$46.99	$38.00
Entire University	$20.74	$23.09	$36.13

* Student-majors in the Department of Home Economics were added to those of the School of Education, as the data for faculty salaries could not be separated.

power. The same index is employed for reducing the dollars to equal purchasing power as was employed in the case of Table 25; the year 1913 was again used as a base.

This table shows that when the value of the dollar is taken into account the faculty-salary budget did not keep pace with the size of the instructional load of the University. This was true both for the profession-

sidered in dollars of equal purchasing power. Since these data were gathered there have been further marked changes in the value of the dollar. Data for faculty salaries have not been compiled for 1931–32, but the University made no reductions in faculty salaries that year, and there is no reason to believe that the average salary decreased. It is therefore highly probable that faculty salaries in 1931–32 were actually higher in terms of dollars of equal purchasing power than they were in 1908–9.

The increases in the faculty-salary budget may be compared not only with the number of faculty members but also with the size of the teaching load. It is possible to relate the data for total faculty-salary expenditures to the number of student-majors of credit for the three years 1908–9, 1918–19, and 1928–29. This results in a figure of total faculty-salary expenditures per student-major of credit. These data are given in Table 26.

This table presents the expenditures for faculty salaries per student-major of credit in terms of the actual dollars in the faculty-salary budget. The table shows that the increases in the faculty-salary budget were more rapid than the increases in student-majors when the salary budget is expressed in terms of the total number of dollars. The increases from 1908–9 to 1928–29 were about the same for the professional schools and for Arts, Literature, and Science.

It is important, however, to relate these two items

CHAPTER VI

GROWTH IN COURSES OFFERED AND CLASSES TAUGHT

The curriculum offerings at the University of Chicago are divided into units known as courses, the typical course meeting for four or five days a week for a quarter of eleven or twelve weeks. Students generally carry three courses, for each of which they receive 1 major[1] of credit per quarter; faculty members customarily teach 2 majors (usually equivalent to two courses) during each of the three quarters in which they are in residence. Growth in the curriculum offerings of the University may be studied by tabulating the number of separate courses given in each of a number of selected years.

The instructional burden may also be studied in terms of the number of classes maintained. In general, each course offered means at least one class maintained. Because of the fact that a number of courses must be given in more than one section, the number of classes exceeds the number of courses. The data relating to the number of courses give the more accurate picture of the growth of curriculum offerings;

[1] By a recent action of the University Senate the terms "major" and "minor" have been abolished.

al schools and for the departments of Arts, Literature, and Science.

It seems probable that a significant change has taken place in the situation since 1928–29, particu-

TABLE 27

FACULTY-SALARY EXPENDITURES IN TERMS OF DOLLARS OF EQUAL PURCHASING POWER (1913 BASE) PER STUDENT-MAJOR OF CREDIT IN 1908–9, 1918–19, AND 1928–29

Division or Professional Schools	1908–9	1918–19	1928–29
Biological Sciences	$23.61	$11.91	$30.49
Humanities	22.62	16.66	18.71
Physical Sciences	28.15	13.72	21.14
Social Sciences	17.81	11.87	14.24
Arts, Literature, and Science	$22.43	$13.55	$20.06
Professional schools	$27.65	$29.10	$21.34
Entire University	$22.96	$14.30	$20.29

larly when salaries are expressed in dollars of constant purchasing power. The value of the dollar has been increasing in these most recent years, while faculty salaries in actual dollars have also increased.

ries affiliated with the Divinity School, but not a part of the University proper, were not included in the tabulations.

At the time these data were collected, the University had just been reorganized on the divisional basis. For that reason, the tabulations in this chapter refer to the major fields of study comprehended in the University divisional organization, although the courses and classes on which the study is based were all offered before the divisional organization was introduced. Detailed tabulations classifying the data by departments are presented in the Appendix of this report.[2] The various fields of study are referred to by their divisional classification, although many of the courses and classes are properly in the College rather than in the divisions, the divisions dealing only with work above the junior-college level.

TRENDS IN VARIOUS FIELDS OF STUDY

Tables 28 and 29 present data showing the number of courses taught and the number of class sections maintained in each of the divisions and in the professional schools at five-year intervals from 1903–4 to 1928–29, in terms of course-majors and class-majors, respectively. Figures 37 and 38 present a graphic representation of the same data.

During the period covered by this study the humanities had a larger total number of courses offered,

[2] See Table 64 in the Appendix.

data relating to number of classes maintained give the better picture of the instructional burden involved in the University program.

In this study two units of tabulation are used, course-majors and class-majors. A course-major is one course given for one quarter for 1 major of credit, and a class-major is one class taught for one quarter in a course for which the student receives 1 major of credit. A course given during one quarter and then repeated during one or more subsequent quarters in the same year was counted in the tabulation as many times as it was offered in separate quarters during a single year. Whenever a course was given with more than one credit value, the average value was used in computing the course-majors. Courses that were divided into two or more sections were counted as only one course if given during the same quarter, but were entered in the tabulation of class-majors as separate classes. Class-majors were computed on the basis of the actual number of classes taught during the year, with the exception of class sections in a few science courses that were given in one large lecture section with the laboratory work divided into two or more sections. These were counted as single classes.

The present study includes only courses taught on the Quadrangles. Courses in University College, Rush Medical College, and Yerkes Observatory are not included in this study. Courses taught and classes maintained by instructors in the theological semina-

of classes maintained is larger than the number of courses offered in any one quarter because some courses are given in more than one section. The proportion of courses for which more than one class sec-

TABLE 29

TOTAL NUMBER OF CLASSES MAINTAINED, IN TERMS OF MAJORS, IN EACH FIELD OF STUDY AT FIVE-YEAR INTERVALS FROM 1903–4 TO 1928–29

FIELD OF STUDY	NUMBER OF CLASSES MAINTAINED, IN TERMS OF MAJORS						PERCENTAGE OF INCREASE FROM 1903–4 TO 1928–29
	1903–4	1908–9	1913–14	1918–19	1923–24	1928–29	
Social sciences*	248	360	384	419	638	717	189
Biological sciences†	256	242	326	386	419	608	138
Physical sciences	269	295	356	387	457	541	101
Humanities	498	522	565	568	595	747	50
Professional schools‡	76	93	88	87	236	400	426
Entire University	1,347	1,512	1,719	1,847	2,345	3,023§	124

* Including all courses in education.

† Not including the Department of Physical Culture, for which data were not available.

‡ Not including Rush Medical College.

§ Classes in general survey courses (ten classes in terms of majors) were included in the 1928–29 total but not in the separate divisions.

tion was maintained in the period from 1903–4 to 1928–29 was much larger in the social sciences and the humanities than it was in the biological and the physical sciences. The trend in number of classes maintained followed approximately the same pattern

in terms of majors, than any of the other fields of study; in the last year shown, 1928–29, the social sciences were second, and the biological sciences, third. The rate of increase in courses offered was much larger

TABLE 28

TOTAL NUMBER OF COURSES TAUGHT, IN TERMS OF MAJORS, IN EACH FIELD OF STUDY AT FIVE-YEAR INTERVALS FROM 1903–4 TO 1928–29

Field of Study	Number of Courses Taught, in Terms of Majors						Percentage of Increase from 1903–4 to 1928–29
	1903–4	1908–9	1913–14	1918–19	1923–24	1928–29	
Social sciences*	244	341	350	364	536	599	145
Biological sciences†	256	241	289	379	401	596	133
Physical sciences	247	283	336	320	401	495	100
Humanities	436	450	467	460	481	642	47
Professional schools‡	76	91	88	87	203	372	389
Entire University	1,259	1,406	1,530	1,610	2,022	2,708§	115

* Including all courses in education.

† Not including the Department of Physical Culture, for which data were not available.

‡ Not including Rush Medical College.

§ General survey courses (four courses in terms of majors) were included in the 1928–29 total but not in the separate divisions.

in the professional schools than in any of the four divisional fields. In the Arts, Literature, and Science group, the social sciences had the largest percentage of increase, while the humanities had the smallest.

As has been previously explained, the number

of classes maintained is larger than the number of courses offered in any one quarter because some courses are given in more than one section. The proportion of courses for which more than one class sec-

TABLE 29

TOTAL NUMBER OF CLASSES MAINTAINED, IN TERMS OF MAJORS, IN EACH FIELD OF STUDY AT FIVE-YEAR INTERVALS FROM 1903–4 TO 1928–29

FIELD OF STUDY	NUMBER OF CLASSES MAINTAINED, IN TERMS OF MAJORS						PERCENTAGE OF INCREASE FROM 1903–4 TO 1928–29
	1903–4	1908–9	1913–14	1918–19	1923–24	1928–29	
Social sciences*	248	360	384	419	638	717	189
Biological sciences†	*256*	*242*	*326*	*386*	*419*	*608*	*138*
Physical sciences	269	295	356	387	457	541	101
Humanities	498	522	565	568	595	747	50
Professional schools‡	*76*	*93*	*88*	*87*	*236*	*400*	*426*
Entire University	1,347	1,512	1,719	1,847	2,345	3,023§	124

* Including all courses in education.

† Not including the Department of Physical Culture, for which data were not available.

‡ Not including Rush Medical College.

§ Classes in general survey courses (ten classes in terms of majors) were included in the 1928–29 total but not in the separate divisions.

tion was maintained in the period from 1903–4 to 1928–29 was much larger in the social sciences and *the humanities than it was in the biological and the* physical sciences. The trend in number of classes maintained followed approximately the same pattern

of distribution among the various fields of study as was observed for the data on courses offered.

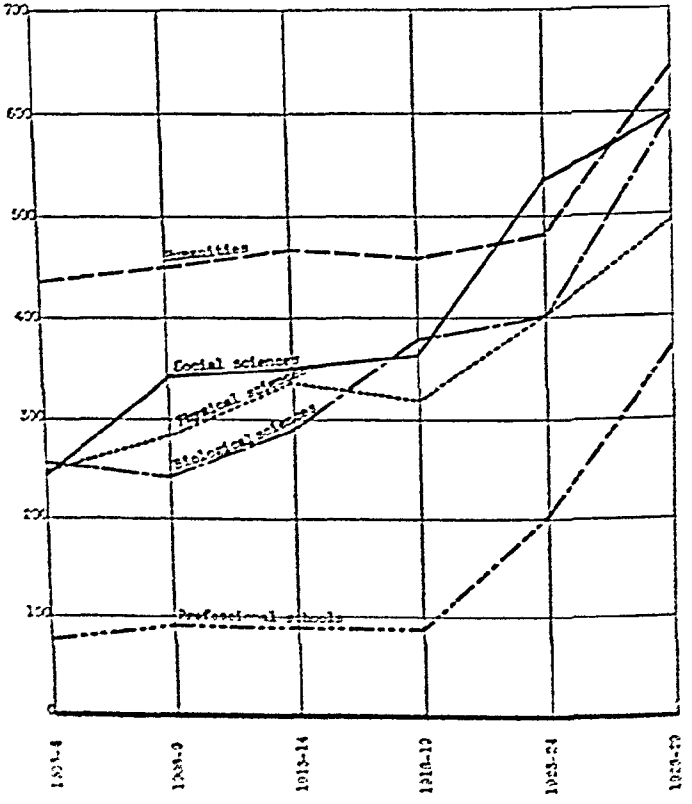

FIG. 37.—Number of courses taught in various fields of study at five-year intervals from 1903–4 to 1928–29.

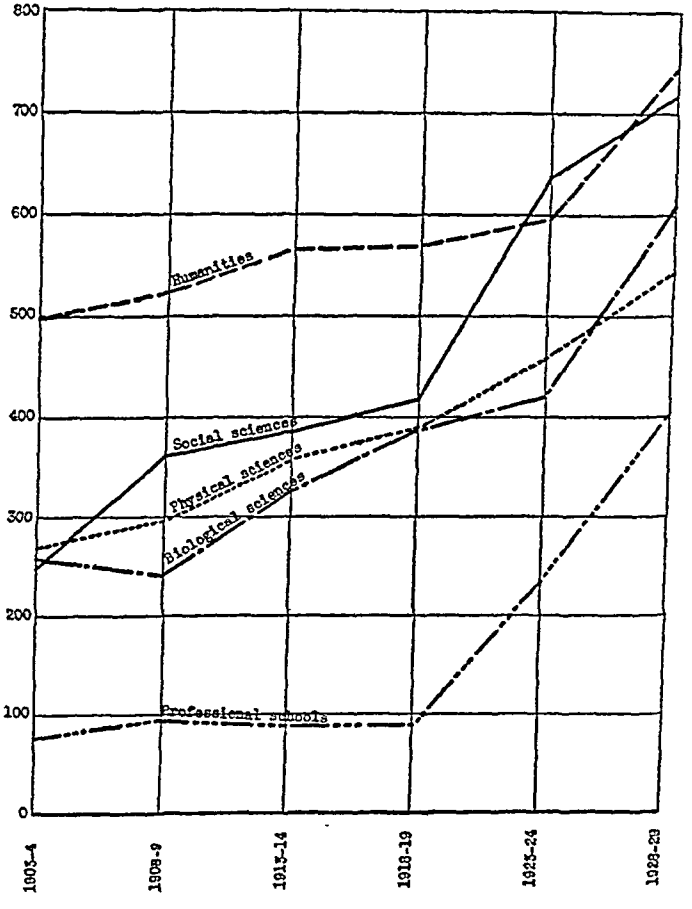

FIG. 38.—Number of classes taught in various fields of study at five-year intervals from 1903–4 to 1928–29.

RELATION OF TRENDS IN NUMBER OF COURSES AND CLASSES TO STUDENT ENROLMENTS AND STUDENT-MAJORS OF REGISTRATION

Figure 39 presents comparisons of the percentages of increase in number of courses taught and the number of classes maintained with the number of students enrolled on the Quadrangles, using 1903–4 as a base. The data for number of students have been calculated from Table 47 (in the Appendix) by subtracting the enrolments of University College and Rush Medical College from the total number of different students enrolled.

From 1903–4 up to 1923–24 the numbers of courses taught and classes maintained were increasing at less rapid rates than the student enrolments. The sharp increase in enrolments between 1918–19 and 1923–24 was matched by a similar sharp upturn in the numbers of courses taught and classes maintained. Between 1923–24 and 1928–29, while the enrolments were approximately constant, the numbers of courses and classes had the largest increases of any similar period for which data were available. The ratio of the number of students to the number of courses was the smallest in 1928–29 that it had been at any time since 1908–9. The increase in the number of classes maintained in proportion to enrolments was much larger in the professional schools than in the Colleges and Graduate Schools of Arts, Literature, and Science.

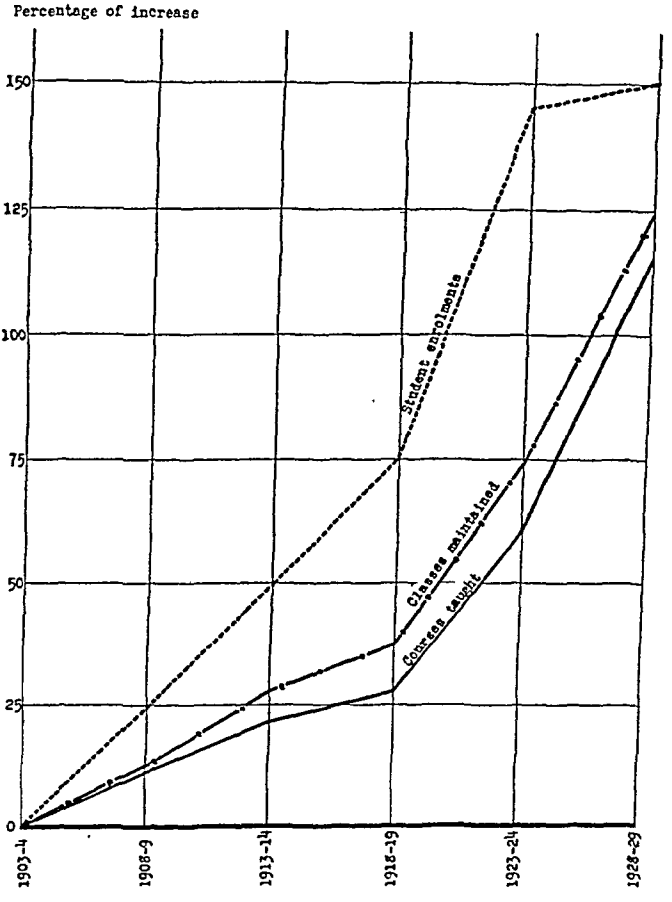

FIG. 39.—Percentage of increase in number of courses taught, number of classes maintained, and number of students enrolled on the Quadrangles at five-year intervals from 1903–4 to 1928–29, using 1903–4 as a base.

The average size of classes may be obtained by dividing the number of student-majors of registration (see Tables 3 and 4, pp. 53–55) by the number of classes maintained. The data thus derived do not strictly represent the average size of classes because a few classes were given for more than 1 major of credit and a few were given for less than this amount; but no significant error was introduced by the assumption that each class was given for 1 major of credit. The figures for average size of classes in the years 1908–9 and 1928–29 are given in Table 30. These years were selected because they were the ones for which the data for both student-majors of registration and number of classes were available.

There was surprisingly little change in the average size of classes in the University during the twenty-year period. There was a sharp decrease in the average size of classes in the professional schools, but, because of the relatively small number of classes in these units, this tendency did not have a marked effect upon the University total. There were slight increases in the average size of classes in the humanities and the social sciences, and corresponding slight decreases in the biological sciences and the physical sciences. The largest average size of classes was in the professional schools. Among the fields of study in Arts, Literature, and Science the social sciences had the largest average size of classes with humanities in second place. The average size of classes in the physical and biological sciences was only about two-thirds

that in the social sciences. These tendencies persisted throughout the entire period for which data are available.

When data for average size of classes are analyzed separately by departments,[3] a wide variation is found.

TABLE 30

AVERAGE SIZE OF CLASSES* IN EACH FIELD OF STUDY IN 1908–9 AND 1928–29

FIELD OF STUDY	AVERAGE SIZE OF CLASSES IN		PERCENTAGE OF	
	1908–9	1928–29	Increase	Decrease
Humanities	17.2	18.1	5.2	.....
Social sciences†	19.8	20.7	4.5	.....
Biological sciences‡	14.2	13.4	.....	5.6
Physical sciences	15.9	14.7	.....	7.5
Professional schools§	31.1	23.8	.....	23.5
Entire University‖	17.9	18.0	0.6	.....

* Assuming that each class was given for 1 major of credit.

† Including all courses in education.

‡ Not including the Department of Physical Culture, for which data were not available.

§ Not including Rush Medical College.

‖ General survey courses were included in the 1928–29 total but not in the separate divisions.

Departments that had a large average size of classes in 1928–29 were: Philosophy (27.4), English (27.0), History (25.9), and Education (25.4). Those with relatively small enrolments were: Comparative Philology (2.9), Medicine (3.2), Surgery (5.0), and Greek (7.3).

[3] See Table 64 in the Appendix.

RELATION OF TRENDS IN NUMBER OF COURSES AND CLASSES TO NUMBER OF FACULTY MEMBERS

In Figure 40 a comparison is made of the trends in the number of faculty members and number of

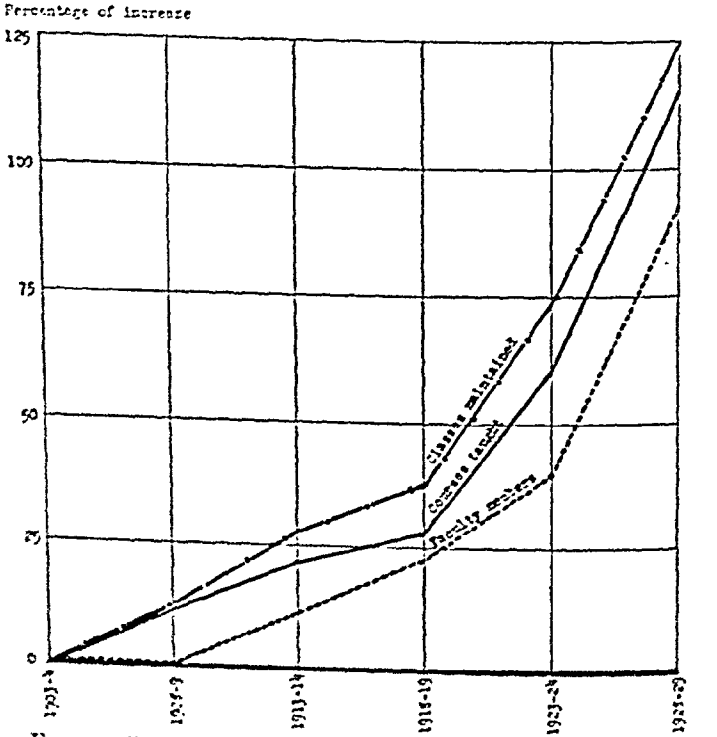

FIG. 40.—Percentage of increase in number of courses taught, number of classes maintained, and number of faculty members on the Quadrangles at five-year intervals from 1903–4 to 1928–29, using 1903–4 as a base.

classes maintained. Data for the number of faculty members have been taken from Table 22, page 125.

This figure makes it clear that the tendency has been for increases in number of courses taught and in number of classes maintained to be paralleled by increases in number of faculty members. During the first five-year period for which data are shown (from 1903–4 to 1908–9), numbers of courses and classes increased, while the number of faculty members actually decreased slightly. During the remainder of the period studied the trend lines are approximately parallel in each five-year interval. Between 1918–19 and 1923–24 there was a slight lag in the number of faculty members, but this was compensated during the next five years.

The reason for this parallelism between the number of classes and number of faculty members is not hard to find. For years the University has followed the policy of defining the service of faculty members in terms of the number of classes to be taught (two during each of three quarters of the academic year). Thus the increases in number of faculty members have naturally been accompanied by increases in number of classes maintained. The data do not permit a conclusion as to which is the causative factor in producing the changes, that is, whether the additional classes were given because of the additions to the teaching staff, or whether the teaching staff was added in order that additional courses might be offered. Doubtless both factors operated to some extent as causes.

CHAPTER VII

GROWTH IN PHYSICAL PLANT

It is difficult to find a satisfactory measure of the extent of building provision in an institution of higher education. A complete analysis of this problem would involve trends in the amount of space devoted to the various purposes, some evaluation of the quality or suitability of the space provided, and some classification of the type of construction with respect to its durability. Such an inquiry could not be made from the data now available at the University of Chicago. Records are available, however, showing the dates of construction of the several buildings comprising the plant of the University, and it is possible, also, to compute the cubic feet of space contained in each building. Such an analysis makes possible a crude measure of the extent of building provision at various periods in the history of the University.

TRENDS IN CUBATURE OF BUILDINGS AND IN STUDENT ENROLMENTS

Table 31 presents data showing the total cubature of the buildings in use at the University of Chicago at intervals of five years from 1893 to 1923, and at yearly intervals from 1923 to 1931. For comparative pur-

poses enrolment data are also presented in this table for the years following 1903. Figure 41 gives a graphic

TABLE 31

TRENDS IN TOTAL NUMBER OF CUBIC FEET OF BUILDING SPACE AND IN NUMBER OF STUDENTS ENROLLED ON THE QUADRANGLES DURING THE AUTUMN QUARTERS, FOR SELECTED YEARS FROM 1893 TO 1931

Year	Total Cubature of Buildings at End of Fiscal Year*	Total Number of Students on Quadrangles, Autumn Quarter†	Cubic Feet of Building Space per Student	Percentage Which		
				Cubature Was of That in 1903	Enrolments Were of Those in 1903	Cubic Feet per Student Was of That in 1903
1893	3,352,331	.....	.....	.....	.....	.....
1898	8,067,417	.....	.....	.....	.....	.....
1903	11,096,357	1,980	5,604	100	100	100
1908	16,811,524	2,397	7,014	152	121	125
1913	19,195,409	2,934	6,542	173	148	117
1918	23,799,424	3,178	7,489	214	161	134
1923	24,550,092	4,845	5,067	221	245	90
1924	26,223,627	5,247	4,998	236	265	89
1925	26,223,627	5,433	4,827	236	274	86
1926	27,138,019	5,646	4,807	245	285	86
1927	27,729,283	5,616	4,938	250	284	88
1928	34,938,754	5,538	6,309	315	280	113
1929	37,282,714	5,743	6,492	336	290	116
1930	41,828,722	5,648	7,406	377	285	132
1931	46,546,787	5,431	8,571	419	274	153

* Cubature of buildings is for the close of the fiscal year immediately preceding the opening of the Autumn Quarter.

† Total students, minus University College students, for the Autumn Quarter of the year shown.

presentation of the percentages of increase in building cubature and in student enrolments from 1903 to 1931.

The number of cubic feet of building space at the University of Chicago showed constant increases.

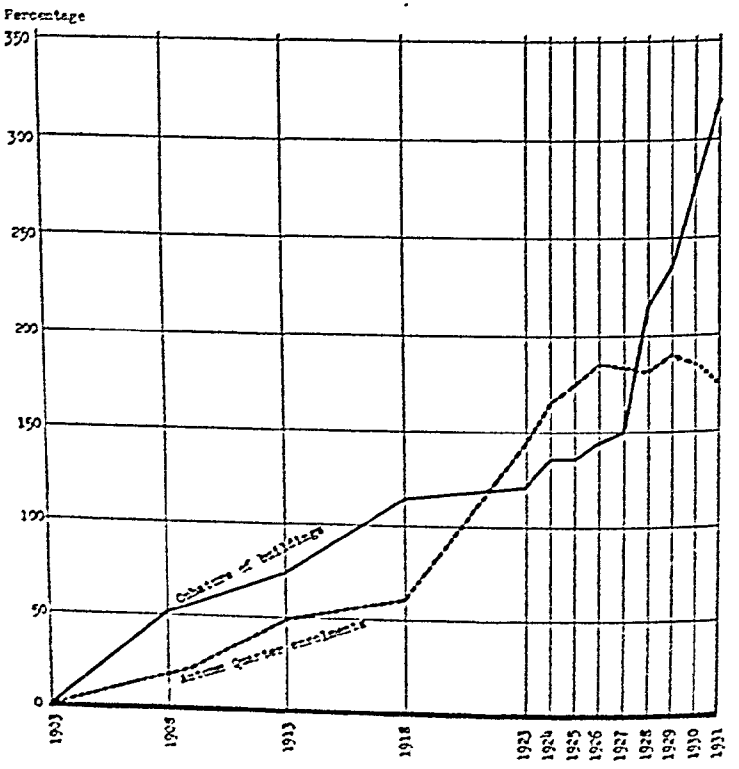

FIG. 41.—Percentage of increase in cubature of buildings and in Autumn Quarter enrolments, for selected years from 1903 to 1930, using 1903 as a base.

There was never a decline, which would be represented by the abandonment or destruction of some

building space, and there was only one of the last nine years, 1924–25, in which the cubature remained stationary. Even in 1924–25, some construction was under way, but none of it was completed during the fiscal year.

The trend in building cubature showed three phases. Prior to 1918 the cubature was increasing consistently and rapidly. The curve for the twenty-five years from 1893 to 1918 does not deviate far from a straight line, with an average annual increase of 817,884 cubic feet of building space. From 1918 to 1927, the amount of cubature rose more slowly than at any time during the entire history of the University. During these nine years the average annual increase amounted to only 436,651 cubic feet, just a little more than half the average annual increase during the preceding twenty-five years.

After 1927 the increase was much more rapid than ever before in the history of the University, the average annual increase between 1927 and 1931 being 4,704,376 cubic feet. This was approximately six times the average rate maintained from 1893 to 1918, and almost seven times the average rate maintained from 1893 to 1927.

The table shows that the total cubature almost doubled between 1923 and 1931. Thus, in the last eight years of the period studied the University constructed about as much building space as during the entire thirty years of its previous history. During the

the cubic feet of building space per student decrease markedly, dropping approximately 15 per cent below the amount shown for 1903 and 35 per cent below the peak reached in 1918.

After 1926 or 1927, the trends in building space and enrolments again diverged in the opposite direction. Building space increased very rapidly after 1927; enrolments were approximately stationary after 1926. As a result of these two trends, the number of cubic feet per student increased very rapidly, and in a period of four years, from 1927 to 1931, swung from the lowest ever recorded since 1903 to the highest ever recorded. The cubature per student in 1931 was 74 per cent greater than in 1927, just four years previously.

A large part of the new construction which brought about this sudden shift in the ratio of building space to number of students consisted of buildings not immediately used by a large number of University students, such as the medical group, the Chapel, the Oriental Institute, Sunny Gymnasium (used by the Laboratory Schools), and the Blackstone Avenue Power Plant. During this same period, however, there were constructed other buildings intended directly for student service, such as Wieboldt Hall, the Social Science Research Building, George Herbert Jones Chemical Laboratory, and Eckhart Hall.

The last three columns of Table 31 present the percentage increases in total cubature and in Autumn

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The last three columns of Table 31 present the percentage increases in total cubature and in Autumn

Quarter enrolments and in cubature per student, respectively, considering the year 1903 as a base. Figure 41 is a graphic presentation of the percentage of increase since 1903 in building cubature and Autumn Quarter enrolments. An analysis of Figure 41 shows that in 1931 the cubature of buildings was over four times that existing in 1903, while the enrolments had increased less than three times. If it be assumed that the adjustment between space and enrolment was satisfactory in 1903, it will be observed that for the next fifteen years the amount of space per student was relatively high. Then followed a period of years when the cubature per student was considerably below the par of 1903. During the past three or four years, however, the trend has changed and the space provisions are much more ample at the present time than in 1903.

DORMITORY SPACE

It would be interesting to analyze the space according to the uses to which it is put. This is very difficult for several reasons. The first reason is that a satisfactory and comprehensive classification of building space in institutions of higher education has not yet been worked out. A second reason is that many of the buildings include space of two or more different types, and the present study has not attempted to analyze the cubature within each of the various buildings according to the uses to which the space is put. As an example of this difficulty, the case of Ida Noyes Hall

may be cited. A part of this building is devoted to the gymnasium, wherein instruction is given women students in physical education. Other parts of the building are used for recreational and social purposes. A third difficulty in making an analysis according to the purposes for which space is used is that the use of space is changed from time to time in the various buildings. For example, some rooms in Cobb Hall which are now used for administrative offices were originally used for chapel purposes. Other rooms in this building that are now offices were quite recently used as classrooms. Similar difficulties can be cited from the history of many of the buildings on the Quadrangles. Because of these difficulties only one type of classification of space has been studied in this survey. It is significant and relatively easy to separate in the entire plant of the University the building space used for dormitory purposes. It is significant, also, to study the relationship between dormitory space and the number of students enrolled in the University. Table 32 presents these data for selected years from 1893 to 1931. Figure 42 gives a graphic representation of the amount of dormitory and non-dormitory space in the University at intervals of five years during the history of the institution from 1893 to 1928.

It will be observed from these data that the amount of dormitory space at the University of Chicago did not increase at the same rate as the total building

space. In 1893 more than half of the total building cubature consisted of dormitories; at the close of the fiscal year in 1931 the dormitory space comprised only

TABLE 32

DORMITORY SPACE, FOR SELECTED YEARS FROM 1893 TO 1931

Year	Total Cubic Feet of Dormitory Space at End of Fiscal Year	Percentage of Total Building Cubature That Was Dormitory	Cubic Feet of Dormitory Space per Student on the Quadrangles, Autumn Quarter*
1893	1,921,383	57.3	.....
1898	1,921,383	23.8	.....
1903	2,790,406	25.1	1,409
1908	2,790,406	16.6	1,164
1913	3,042,152	15.8	1,037
1918	3,042,152	12.8	957
1923	3,257,391	13.3	672
1924	3,257,391	12.4	620
1925	3,257,391	12.4	600
1926	3,257,391	12.0	577
1927	3,107,391	11.2	553
1928	3,107,391	8.9	562
1929	3,107,391	8.3	541
1930	3,107,391	7.4	550
1931	3,107,391	6.7	572
1931†	5,219,031	10.7‡	961

* Based on total students, minus University College students, for the Autumn Quarter of the year shown. Cubature of buildings is for the close of the fiscal year immediately preceding the opening of the Autumn Quarter in the year indicated.

† Including new men's dormitories, first occupied in October, 1931.

‡ Including the new men's dormitories, but not including other new construction completed between June 30, 1931, and October 1, 1932.

6.7 per cent of the total cubature. From 1903 to June, 1931, the total building space of the University

increased 319 per cent, while the total cubature of dormitories increased only 11 per cent.

The cubic feet of dormitory space per student decreased steadily from 1903 to 1927. During the years

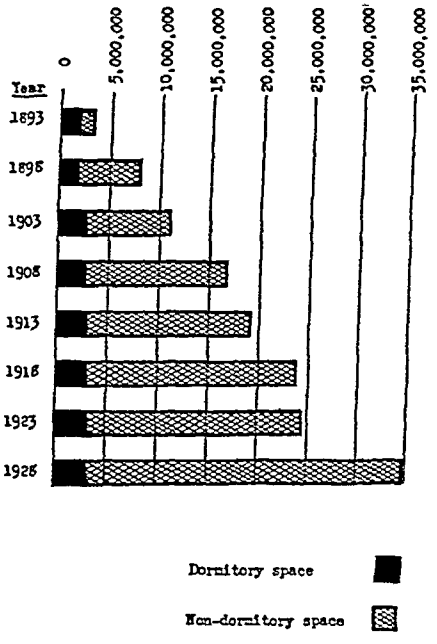

FIG. 42.—Cubic feet of dormitory and non-dormitory space in selected years from 1893 to 1928.

from 1927 to 1930 both the number of students enrolled and the amount of dormitory space were relatively constant, with approximately 550 cubic feet of dormitory space being provided for each student en-

rolled on the Quadrangles in the Autumn Quarter. It is obvious from these data that the University of Chicago during the first decade of its history had much more ample provisions for dormitories in proportion to the students enrolled and in proportion to the remainder of the building space provided than has been the case at any time since the first ten years of the institution's history.

The dormitory provisions of the University may be studied not only in terms of the cubic feet of space but also in terms of the number of occupants for which facilities are provided. Table 33 shows the number of men and women students which the dormitories could accommodate in selected years from 1913–14 to 1930–31. The table also shows the percentage of the Autumn Quarter enrolment on the Quadrangles of men and women students who could be accommodated in the dormitories.

The dormitory provisions for men remained at a constant figure of 320 beds from 1913–14 to 1930–31. The number of accommodations for women varied somewhat, owing to the temporary use of Kenwood House for dormitory purposes between 1919–20 and 1926–27, and owing to a change in the capacity of Woodlawn House when it was changed to French House in 1925–26. In 1913–14 the dormitories of the University provided accommodations for almost one-fifth of the men students on the Quadrangles; in 1930–31 about one-twelfth of the men students could be so

accommodated. Similarly, the dormitory facilities provided for more than one-fifth of the women stu-

TABLE 33

NUMBER OF DORMITORY ACCOMMODATIONS AND PERCENTAGE OF AUTUMN QUARTER ENROLMENTS ON THE QUADRANGLES OF MEN AND WOMEN STUDENTS FOR WHICH DORMITORY FACILITIES WERE AVAILABLE IN SELECTED YEARS FROM 1913–14 TO 1930–31

Year	Number of Students on Quadrangles,* Autumn Quarter		Number of Dormitory Accommodations		Percentage That Dormitory Accommodations Were of Autumn Quarter Enrolments on the Quadrangles	
	Men	Women	Men	Women	Men	Women
1913–14	1,680	1,254	320	264	19.0	21.1
1918–19	1,771	1,407	320	328	18.1	23 3
1919–20	2,720	1,650	320	372	11.8	22.5
1920–21	2,879	1,763	320	372	11.1	21.1
1921–22	2,990	1,791	320	372	10.7	20.8
1922–23	3,061	1,867	320	372	10.5	19.9
1923–24	2,975	1,870	320	372	10.8	19.9
1924–25	3,304	1,943	320	372	9.7	19.1
1925–26	3,352	2,081	320	333	9.5	16.0
1926–27	3,521	2,125	320	333	9.1	15.7
1927–28	3,481	2,135	320	289	9.2	13.5
1928–29	3,521	2,017	320	289	9.1	14.3
1929–30	3,583	2,160	320	289	8.9	13.4
1930–31	3,581	2,067	320	289	8.9	14.0
1931–32	3,435	1,971	585	369	17.0	18.7

* Total Autumn Quarter enrolment minus University College enrolment.

dents in 1913–14 but for only one-seventh of them in 1930–31. Since 1913–14 dormitory accommodations have been provided more extensively for women than

for men, in proportion to the number of students of each sex.

The data discussed up to this point have not included the new men's dormitory, the College Residence Halls for Men, which opened in October, 1931, as this unit had not been completed at the end of the fiscal year 1931. The inclusion of this unit would increase the percentage of total building space devoted to dormitory purposes to 10.7 per cent. In the Autumn Quarter, 1931, the cubic feet of dormitory space per student, including the College Residence Halls for Men, was 961. With the completion of the new men's Residence Halls and the conversion of some of the former dormitories for men to women's dormitories, at the opening of the Autumn Quarter, 1931, accommodations were available for 17.0 per cent of the men students and 18.7 per cent of the women students on the Quadrangles.

It is interesting to note from Table 32 the periodicity in dormitory construction. The University seems to have followed the plan of constructing additional dormitory space only in alternate five-year periods. Thus, no dormitory space was constructed between 1893 and 1898, but some additions were made between 1898 and 1903. Again, nothing was added to the dormitory space from 1903 to 1908, but some additional space was provided between 1908 and 1913. The period from 1913 to 1918 was again a time of no dormitory construction. A small amount of

dormitory space (French House and Kenwood House) was added between 1918 and 1923. From 1923 to 1928 was again an "off period" for dormitory construction; the use of Kenwood House was discontinued in 1927. The last five-year period will not end until 1933, but this period will follow the general rule by again showing a considerable amount of dormitory construction, principally the new dormitory for men constructed south of the Midway. In fact, the additions during the last five-year period, or during the five-year period which will end in 1933, will be the largest during any similar period in the history of the University since 1903.

CHAPTER VIII

GROWTH IN FINANCIAL ASSETS, INCOME, AND EXPENDITURE

The growth in the finances of the University of Chicago is studied under three headings: (1) growth in assets; (2) growth in income; and (3) growth in expenditure. The data for this section of the study have been obtained through the courtesy of the Comptroller's Office.

ASSETS

Table 34 presents data showing the amount of assets of the University of Chicago at the close of each fiscal year from 1893 to 1931. The assets are classified as endowment-fund assets, plant-fund assets, and other assets; the last-mentioned category includes funds that are held as agent and temporarily. The trends in total assets and total endowment-fund assets are shown graphically in Figure 43.

This table and figure show the steady and remarkably rapid growth in assets during the history of the University. This growth was greatly accelerated during the last six or seven years represented. From 1924 to 1931, a period of only seven years, the total assets of the University practically doubled. The growth in

TABLE 34

ASSETS OF THE UNIVERSITY AT THE CLOSE OF EACH FISCAL YEAR FROM 1893 TO 1931

Close of Fiscal Year	Endowment-Fund Assets	Plant-Fund Assets	Other Assets	Total Assets
1893	$1,465,250	$1,597,133	$ 109,183	$ 3,171,566
1894	2,123,071	2,091,114	57,962	4,272,147
1895	3,129,869	2,302,824	153,468	5,586,161
1896	5,330,949	2,300,552	101,126	7,732,626
1897	5,570,565	2,655,821	85,256	8,311,642
1898	5,690,350	3,124,432	122,978	8,937,760
1899	5,472,584	3,607,437	77,701	9,157,722
1900	6,033,551	3,758,825	88,401	9,880,778
1901	7,888,839	4,451,871	23,506	12,364,364
1902	8,739,194	6,353,441	35,741	15,128,376
1903	9,197,982	7,608,911	277,807	17,084,700
1904	9,245,317	8,277,781	374,818	17,897,916
1905	8,990,192	8,264,291	363,209	17,617,692
1906	8,738,722	8,590,777	406,384	17,735,883
1907	12,541,256	10,227,361	692,984	23,461,601
1908	14,015,310	10,838,898	523,323	25,377,531
1909	14,024,896	11,240,805	524,402	25,790,103
1910	14,919,073	11,494,423	517,328	26,930,824
1911	15,963,348	11,640,793	606,652	28,210,793
1912	17,295,360	11,510,144	621,035	29,426,539
1913	18,175,166	12,177,379	702,875	31,055,420
1914	18,629,541	13,118,954	713,987	32,462,482
1915	19,446,184	13,619,475	701,188	33,766,847
1916	22,239,870	14,102,543	836,806	37,179,219
1917	23,283,563	15,172,807	934,925	39,391,295
1918	26,795,447	15,719,665	1,094,917	43,610,029
1919	29,327,223	16,072,531	1,355,800	46,755,555
1920	28,364,304	16,651,604	2,662,482	47,678,390
1921	29,503,076	17,034,027	2,187,864	48,724,967
1922	29,635,975	17,367,804	2,600,341	49,604,120
1923	30,268,886	17,995,259	3,078,173	51,342,318
1924	31,992,621	18,688,522	4,019,362	54,700,505
1925	33,776,548	19,350,498	4,553,603	57,680,649

TABLE 34—*Continued*

Close of Fiscal Year	Endowment-Fund Assets	Plant-Fund Assets	Other Assets	Total Assets
1926	$35,303,567	$24,399,872	$ 3,599,220	$ 63,302,659
1927	38,870,629	26,492,027	5,164,694*	70,527,350
1928	43,409,468	29,136,447	5,266,307*	77,812,222
1929	50,889,404	30,833,065	6,634,868*	88,357,337
1930	59,015,297	34,654,582	10,241,205*	103,911,084
1931	59,929,899	36,691,009	12,158,551*	108,779,459

* Includes funds held as agent and temporarily.

endowment-fund assets and in plant-fund assets proceeded at about the same rate as the growth in total assets. The other assets, including funds held as agent and temporarily, became important only in the last ten or twelve years of the period.

Figure 44 shows the percentage of total assets represented by endowment at the end of each fiscal year from 1893 to 1931.

This figure shows that the ratio of endowment-fund assets to total assets has been remarkably constant throughout the history of the University. In only three years were the endowment funds less than 50 per cent of the total assets; in only seven years did the endowment funds amount to more than 60 per cent. The trend was remarkably uniform during the last twenty years shown in this chart, the average endowment-fund assets being slightly less than 60 per cent of the total assets.

Figure 45 presents a comparison of the trends in

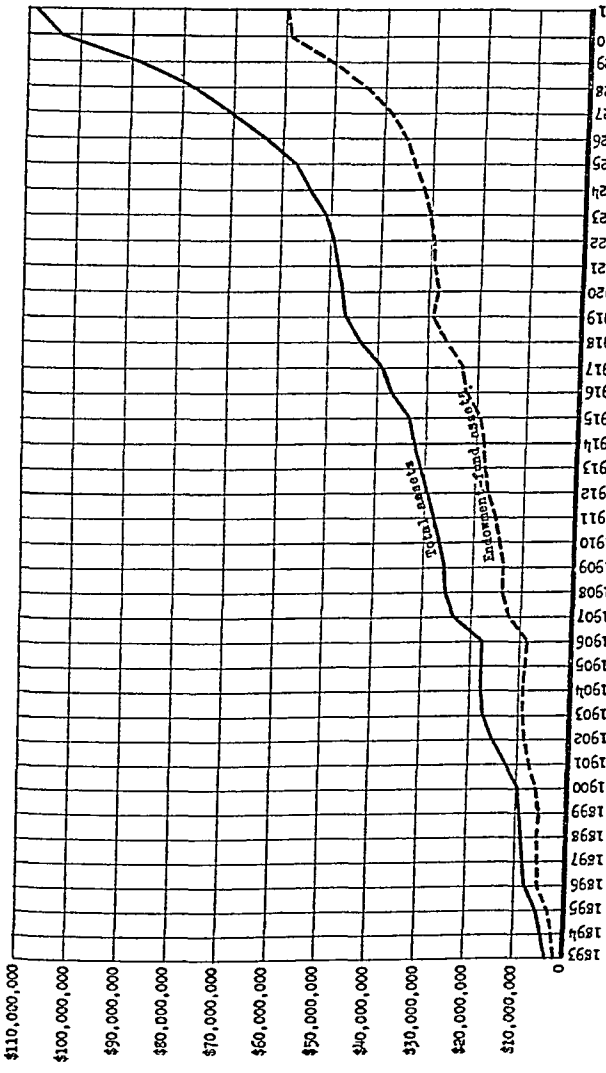

FIG. 43.—Total assets and total endowment-fund assets at the close of each fiscal year from 1893 to 1931.

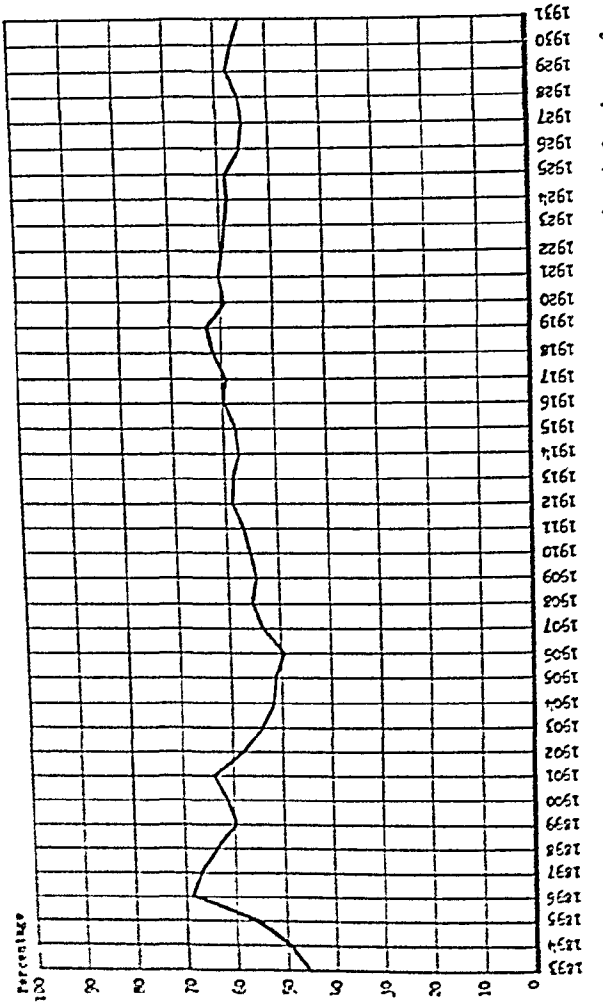

FIG. 44.—Percentage of total assets that were endowment funds at the end of each fiscal year from 1893 to 1931.

total assets and in total student enrolments,[1] in terms of the percentage of increase since 1903–4. The comparison is limited to the period from 1903–4 to 1930–

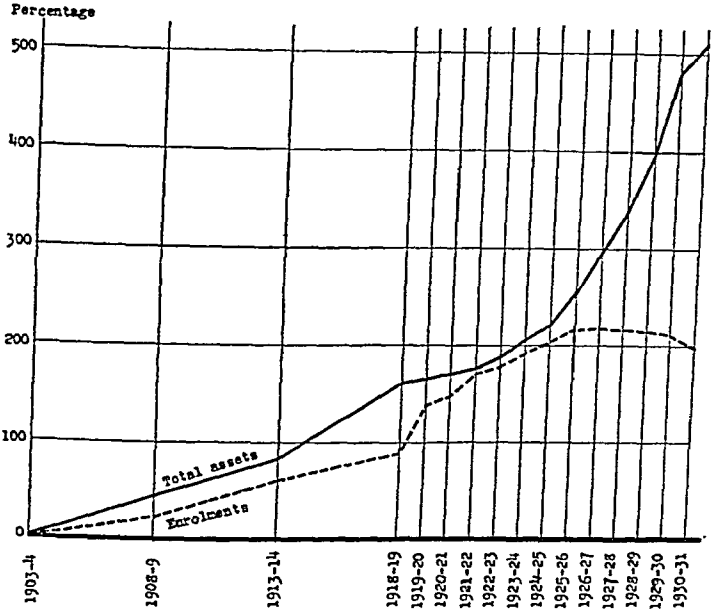

FIG. 45.—Percentage of increase in total assets and in enrolments, for selected years from 1903–4 to 1930–31, using 1903–4 as a base.

31, since these are the only years for which enrolment statistics were presented in chapter ii.[2] In plotting the

[1] The enrolment data include the students of Rush Medical College and University College, but not students enrolled in the correspondence courses of the Home-Study Department.

[2] The data for enrolments have been taken from Table 47 in the Appendix.

data of these curves the points were taken at five-year intervals from 1903–4 to 1918–19; after 1918–19 the curves were plotted with points for each year. The comparison for the enrolments of an academic year is made with the assets at the end of that same year, that is, the percentage of increase that the enrolments of 1918–19 showed over the enrolments of 1903–4 is compared with the percentage of increase that the assets at the end of the fiscal year closing in 1919 showed over the assets at the end of the fiscal year closing in 1904.

It will be observed from this figure that, using 1903–4 data as a base, assets were increasing slightly more rapidly than enrolments during the fifteen-year period from 1903–4 to 1918–19; during the last five years of this period, that is, from 1913–14 to 1918–19, the divergence was more noticeable than in the preceding decade. The large expansion in enrolments during the post-war period carried the enrolment curve to practically the same percentage of increase over the 1903–4 base as the total assets showed. When the enrolments began to reach a stable level at about 1925–26, assets did not follow a corresponding tendency to become stable but increased even more rapidly than ever before. As a result, in 1930–31 the ratio of assets to student enrolment was much larger than at any previous period included in this study.

Figure 46 presents a comparison between the trends in total assets and in total number of members on the

teaching staff, expressed in terms of the percentage of increase over the 1903–4 base. The data of this figure cover the period from 1903–4 to 1930–31, with points

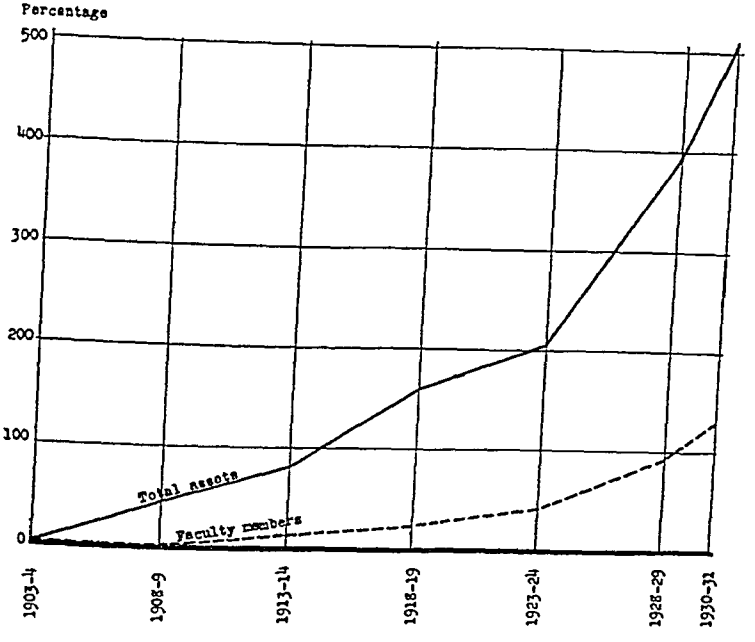

FIG. 46.—Percentage of increase in total assets and in number of faculty members, for selected years from 1903–4 to 1930–31, using 1903–4 as a base.

plotted only at intervals of five years, except for the last period which is a two-year interval.

This figure shows clearly that the growth in total assets after 1903–4 was at a much more rapid rate than the growth in the number of members on the

teaching staff. In other words, the growth in total assets was not reflected in a growth in faculty that in any way corresponded in rate. It should be pointed out that this graph does not indicate that the assets in 1930–31 were larger than necessary for the teaching staff, since the condition in 1903–4 was arbitrarily chosen as a base. The only conclusion that may be drawn from this chart is that, using the period from 1903–4 to 1908–9 as a base, the rate of increase in assets far outstripped the rate of increase in the number of members on the teaching staff.

Figure 47 presents a comparison of trends in total assets and in total faculty-salary budget, in terms of the percentage of increase over the 1908–9 base. The data were plotted for 1908–9, 1918–19, 1928–29, and 1930–31, as these were the only years for which the data on the faculty-salary budget were tabulated.[3] It should be noted that in this figure 1908–9 was considered as the base, instead of 1903–4 as in preceding figures.

This figure shows that the faculty-salary budget increased at approximately the same rate as the total assets of the University during the period covered by these data. If endowment assets only be considered, the increase in faculty-salary budget (289 per cent) was somewhat less than the increase in endowment assets (327 per cent). On the whole, there is a re-

[3] The data for the faculty-salary budgets have been taken from Table 23 in chap. v of this volume.

markable correspondence between the trends in total assets and in total faculty-salary budget.

The data of Figures 46 and 47 show that, although the total faculty-salary budget kept pace with the total assets, the total number of faculty members fell

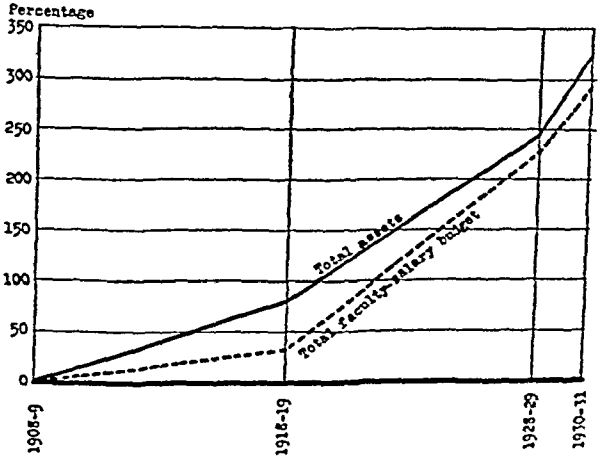

FIG. 47.—Percentage of increase in total assets and in total faculty-salary budget, for selected years from 1908–9 to 1930–31, using 1908–9 as a base.

behind the rate of increase in total assets. This finding corresponds to that previously presented showing that the average salary of staff members increased during this period. It will be recalled, however (see Table 27, chap. v), that in terms of dollars of constant purchasing power faculty salaries actually decreased during this period.

Figure 48 presents a comparison of the trends in total assets, and in total number of courses offered,[4] in terms of the percentage of increase over the 1903–4 base. The data of this figure cover the period from 1903–4 to 1928–29, with points plotted at five-year intervals.

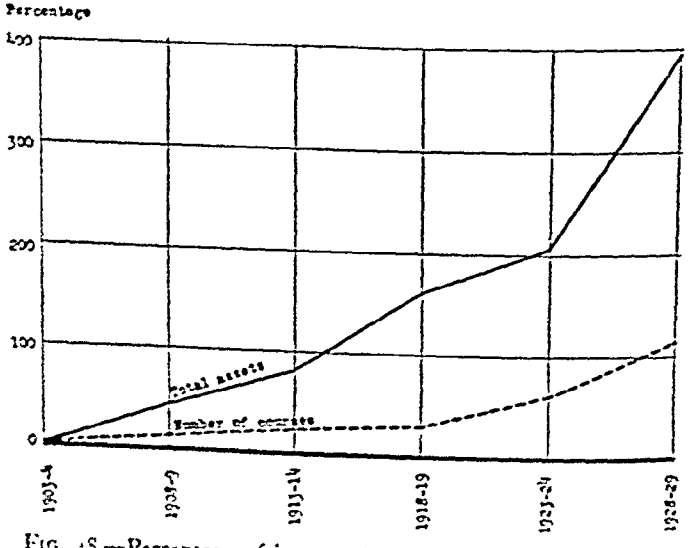

FIG. 48.—Percentage of increase in total assets and in number of courses, for selected years from 1903–4 to 1928–29, using 1903–4 as a base.

was a marked expansion in the curriculum offerings after 1903–4, as measured by the number of courses, the rate of increase in total assets during this period was correspondingly much larger.

EXPENDITURES

Table 35 presents data showing the current expenditures of the University for each year from 1918–19 to 1930–31. The figures in this tabulation include all current expenditures for educational purposes. Expenditures for the following activities have not been included in the total: the University Press, Commons, dormitories, athletics, and annuities under contracts. The figures include the gross expenditures for the operation of the University Clinics, as these facilities serve as a laboratory for the medical sciences.

In Table 35 the total expenditures are analyzed into two categories: those accounted for under the budget and those accounted for outside the budget. It has been the custom at the University to omit from the regular budget funds of a non-recurring type assigned for a definite period to specific departments or for specific projects. These extra-budget funds have assumed relatively large proportions in recent years, amounting to more than one-eighth of the total expenditures in 1930–31.

It will be observed from Table 35 that the grand total educational expenditures of the University have increased markedly since 1918–19, aggregating in

1930–31 more than four times the amount expended thirteen years previously. The most rapid increases have occurred in the last four or five years of the period studied. Figure 49 presents comparisons of the in-

TABLE 35

ANNUAL EDUCATIONAL AND GENERAL EXPENDITURES* OF THE UNIVERSITY FROM 1918–19 TO 1930–31

Year	Accounted For under the Budget	Accounted For outside the Budget	Total Current Educational and General Expenditures
1918–19	$2,043,036	$ 113,599	$2,156,635
1919–20	2,593,208	205,383	2,798,591
1920–21	3,054,669	160,145	3,214,814
1921–22	3,162,856	207,758	3,370,614
1922–23	3,318,338	203,078	3,521,416
1923–24	3,642,863	216,204	3,859,067
1924–25	3,835,170	284,713	4,119,883
1925–26	4,217,180	378,474	4,595,654
1926–27	4,905,135	465,955	5,371,090
1927–28	5,866,144	457,456	6,323,600
1928–29	6,274,145	668,375	6,942,520
1929–30	7,199,033	968,472	8,167,505
1930–31	7,936,680	1,186,398	9,123,078

*This tabulation does not include expenditures for the University Press, the Commons, dormitories, athletics, and annuities under contracts.

crease in total educational expenditures with increases in enrolments and in number of faculty members since 1918–19.

It is clear from this figure that the percentage of increase in expenditures since 1918–19 has been much larger than the percentage of increase in either enrolments or faculty members. The increase in expendi-

tures from 1918–19 to 1930–31 was 323 per cent; in enrolments the increase over the corresponding period was 59 per cent; and in number of faculty members the increase was 87 per cent.

The budget expenditures of the University are at present divided into seven sub-budgets. The largest

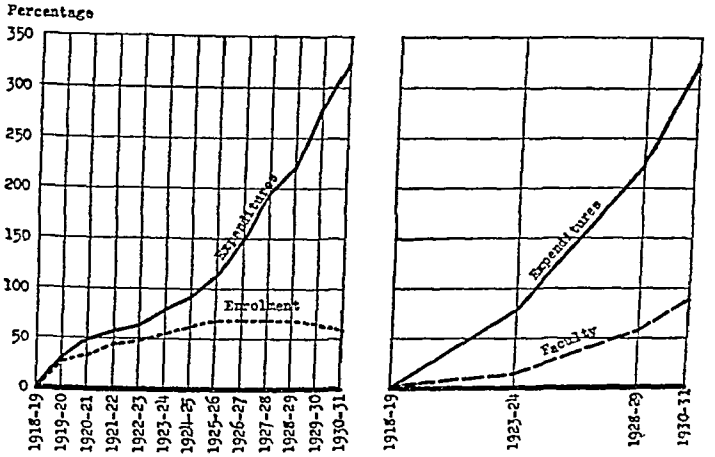

FIG. 49.—Percentage of increase in total expenditures, in enrolments, and in number of members on the faculty, from 1918–19 to 1930–31, using 1918–19 as a base.

of these, known as the "University general" budget, represents the activities upon which the institution had entered by 1919–20. Each of the activities that have been developed after that date has been constituted as a separate budget. Table 36 analyzes the total budget expenditures of the University in accordance with the sub-budget classification.

TABLE 36

TOTAL ANNUAL BUDGET EXPENDITURES OF THE UNIVERSITY IN THE VARIOUS BUDGET DIVISIONS FROM 1918–19 TO 1930–31

Year	University General	Graduate Library School	School of Social Service Administration	Rush Medical College	Medical School (South Side)	University Clinics	Oriental Institute	Grand Total Budget Expenditures
1918–19	$2,043,036	.....	.....	.....	.....	.....	.....	$2,043,036
1919–20	2,548,270	.....	.....	.....	.....	.....	$ 44,938	2,593,208
1920–21	2,986,426	.....	$ 14,750	.....	.....	.....	53,493	3,054,669
1921–22	3,120,711	.....	24,061	.....	.....	.....	18,084	3,162,856
1922–23	3,270,252	.....	25,395	.....	.....	.....	22,691	3,318,338
1923–24	3,577,348	.....	26,815	.....	.....	.....	38,700	3,642,863
1924–25	3,693,434	.....	29,184	$ 66,726	.....	.....	45,826	3,835,170
1925–26	3,955,309	.....	31,811	96,518	.....	.....	133,542	4,217,180
1926–27	4,338,846	.....	57,188	124,136	$118,949	$ 28,131	237,885	4,905,135
1927–28	4,675,358	$27,420	86,914	135,047	376,195	317,520	247,690	5,866,144
1928–29	4,770,003	44,658	95,242	131,338	518,349	431,906	282,649	6,274,145
1929–30	5,177,365	40,128	109,732	148,720	679,960	591,398	451,730	7,199,033
1930–31	5,400,807	37,128	117,268	167,628	825,924	892,949	494,976	7,936,680

The date of the initiation of the various enterprises not included in the "University general" budget may be observed in Table 36 by noting the point at which budget expenditures for the unit began.[5] It is interesting to note from this table that almost one-third of the grand total budget expenditures in 1930–31 were represented by these new units that have been developed since 1919–20. In other words, a considerable part of the increase in total budget expenditures is accounted for by the adoption of new educational undertakings. The increase from 1918–19 to 1930–31 in the expenditures for the older lines of activity, represented in the "University general" budget, amounted to 164 per cent; during the same period the grand total budget expenditures increased 288 per cent.

Table 37 presents an analysis of the total annual budget expenditures of the University from 1918–19 to 1930–31, classified according to the function served by the expenditure.

It will be observed from Table 37, as noted also from the preceding table, that the total budget expenditures of the University exhibited approximately a fourfold increase over the period studied. The salaries for instruction and research on the Quadrangles

[5] In a few cases the activities represented by these subdivisions of the budget had been carried on under departmental auspices prior to the setting up of the separate budget, but the initiation of the separate budget practically always indicates a development on a new level of importance.

increased a little less rapidly than the total budget expenditures. The most rapid increase in any of the categories shown in the table was in educational expenditures other than salaries; the expenditures in

TABLE 37

TOTAL ANNUAL BUDGET EXPENDITURES OF THE UNIVERSITY, FROM 1918–19 TO 1930–31, CLASSIFIED ACCORDING TO FUNCTION

Year	Salaries* for Instruction and Research on the Quadrangles	Other Educational Expenditures Applicable to Intramural Instruction†	Business Administration	Buildings and Grounds	Special Educational Activities‡	Total
1918–19	$ 848,824	$ 556,725	$ 81,097	$311,017	$245,373	$2,043,036
1919–20	1,050,943	733,205	97,107	435,911	276,042	2,593,208
1920–21	1,221,165	931,180	103,325	454,811	344,188	3,054,669
1921–22	1,298,686	995,741	102,419	374,611	421,399	3,162,856
1922–23	1,335,195	1,015,053	113,185	415,356	439,550	3,318,339
1923–24	1,469,894	1,139,005	124,299	425,772	463,893	3,642,863
1924–25	1,549,266	1,217,149	122,230	424,598	521,927	3,835,170
1925–26	1,638,277	1,391,754	159,133	442,930	585,086	4,217,180
1926–27	1,825,787	1,685,629	196,803	537,925	658,991	4,905,135
1927–28	2,058,177	2,331,279	223,112	626,504	627,072	5,866,144
1928–29	2,169,642	2,570,156	236,966	657,916	639,465	6,274,145
1929–30	2,403,118	3,044,408	272,371	724,868	754,268	7,199,033
1930–31	2,758,390	3,399,255	302,772	719,652	756,611	7,936,680

* Including retiring allowances and annuity premiums.

† An analysis of the expenditures under this category is presented in Table 39.

‡ An analysis of the expenditures under this category is presented in Table 40.

this category in 1930–31 were approximately six times those in 1918–19. During the earlier years of the period the total salary payments for instruction and research were consistently higher than the other educational expenditures, but during the last four years of the period the situation was reversed. Expenditures for business administration increased at

approximately the same rate as the total budget expenditures, but the expenditures for the Buildings and Grounds Department increased somewhat less rapidly than the total budget expenditures. Expenditures for special educational activities also did not increase as rapidly as total budget expenditures.

Table 38 presents an analysis showing the percent-

TABLE 38

PERCENTAGE DISTRIBUTION OF TOTAL BUDGET EXPENDITURES, FROM 1918–19 TO 1930–31, ACCORDING TO FUNCTION

Year	Salaries* for Instruction and Research on the Quadrangles	Other Educational Expenditures Applicable to Intramural Instruction	Business Administration	Buildings and Grounds	Special Educational Activities
1918–19	41.55	27 25	3.97	15.22	12.01
1919–20	40.53	28 28	3.74	16.81	10.64
1920–21	39.97	30.49	3.38	14.89	11.27
1921–22	41.07	30.54	3.23	11.84	13.32
1922–23	40.24	30 59	3.41	12.52	13.24
1923–24	40.35	31.27	3.41	11 69	13.28
1924–25	40.39	31.74	3 19	11.07	13.61
1925–26	38.85	33.00	3.77	10.51	13.87
1926–27	37.22	34.36	4.01	10 97	13.44
1927–28	35.09	39.74	3.80	10.68	10.69
1928–29	34.58	40.96	3.78	10.49	10.19
1929–30	33.38	42.29	3 78	10.07	10.48
1930–31	34.76	42.83	3.81	9.07	9.53

* Including retiring allowances and annuity premiums.

age of the total budget expenditures devoted to each of the five major classifications shown in Table 37 for the years from 1918–19 to 1930–31. In this analysis

increased a little less rapidly than the total budget expenditures. The most rapid increase in any of the categories shown in the table was in educational expenditures other than salaries; the expenditures in

TABLE 37

TOTAL ANNUAL BUDGET EXPENDITURES OF THE UNIVERSITY, FROM 1918–19 TO 1930–31, CLASSIFIED ACCORDING TO FUNCTION

Year	Salaries* for Instruction and Research on the Quadrangles	Other Educational Expenditures Applicable to Intramural Instruction†	Business Administration	Buildings and Grounds	Special Educational Activities‡	Total
1918–19	$ 848,824	$ 556,725	$ 81,007	$311,017	$245,373	$2,013,036
1919–20	1,050,913	733,205	97,107	435,911	276,012	2,593,208
1920–21	1,221,165	931,180	103,325	451,811	344,188	3,054,669
1921–22	1,208,686	965,741	102,410	374,611	421,309	3,162,856
1922–23	1,335,195	1,015,053	113,185	415,356	430,550	3,318,339
1923–24	1,460,891	1,130,005	124,299	425,772	483,893	3,642,863
1924–25	1,549,266	1,217,149	122,230	424,598	521,927	3,835,170
1925–26	1,638,277	1,391,754	159,133	442,930	585,086	4,217,180
1926–27	1,825,787	1,685,620	196,803	537,925	658,991	4,905,135
1927–28	2,058,177	2,331,270	223,112	626,501	627,072	5,866,144
1928–29	2,169,612	2,570,156	236,966	657,916	630,465	6,274,145
1929–30	2,403,118	3,011,408	272,371	724,868	754,268	7,166,033
1930–31	2,758,300	3,390,255	302,772	719,652	756,611	7,936,680

* Including retiring allowances and annuity premiums.
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this category in 1930–31 were approximately six times those in 1918–19. During the earlier years of the period the total salary payments for instruction and research were consistently higher than the other educational expenditures, but during the last four years of the period the situation was reversed. Expenditures for business administration increased at

grounds actually required a decreasing percentage of the total budget expenditures of the University.

The expenditures classified in Tables 37 and 38 as "other educational expenditures applicable to intramural instruction and research" are subject to still further subdivision. As has already been pointed out, these deal with the principal items of educational expenditure that are not included in the faculty-salary budget. Table 39 presents an analysis of this item showing the percentage of the total budget expenditures devoted to each subitem under this general classification.

Educational administration required in general a somewhat larger percentage of the total budget expenditures in the later years of the period than in the earlier years, but the percentage in 1930–31 was smaller than at any time since 1923–24. The increase in the percentage of total budget expenditures devoted to departmental equipment and expense was especially striking. The percentage for this item in 1930–31 was more than double the percentage in 1926–27, and more than four times the percentage in 1918–19. The recent increases in this subitem have been the cause of the rapid increase in the total expenditures for educational expenditures other than faculty salaries, which has already received comment in connection with Table 37. The percentage of total budget expenditures devoted to library administration showed a decrease over the period, particularly after 1925–26.

the total expenditures for each year were considered as 100 per cent, and the amount spent for each classification was then computed as a percentage of this total.

The percentage of total budget expenditures devoted to salaries for instruction and research on the Quadrangles was approximately constant during the earlier years of the period, but decreased considerably after 1924–25. The percentage of total budget expenditures devoted to other educational expenditures applicable to intramural instruction increased steadily after 1918–19. The percentage required for business administration fluctuated only within very narrow limits; in other words, the cost of conducting the business affairs of the University was held at a practically constant percentage of the total budget expenditures. A very interesting trend is observed in the expenditures for the buildings and grounds. This item includes only the current cost of operation and maintenance, not the capital cost of new construction. The tendency over the period studied was toward a steady reduction in the percentage of total budget expenditures required for plant operation. It will be recalled that data previously presented (see chap. vii) have shown that the amount of plant space provided by the University was increasing at an unprecedented rate during the period covered by Table 38. In spite of this large increase in the amount of plant to be cared for, the operating costs for the buildings and

grounds actually required a decreasing percentage of the total budget expenditures of the University.

The expenditures classified in Tables 37 and 38 as "other educational expenditures applicable to intramural instruction and research" are subject to still further subdivision. As has already been pointed out, these deal with the principal items of educational expenditure that are not included in the faculty-salary budget. Table 39 presents an analysis of this item showing the percentage of the total budget expenditures devoted to each subitem under this general classification.

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The relative amount of this decrease is masked by the small size of the percentage figure, but the decrease actually amounted to a percentage reduction of ap-

TABLE 39

PERCENTAGE OF TOTAL BUDGET EXPENDITURES DEVOTED TO EACH SUB-ITEM UNDER THE GENERAL CLASSIFICATION "OTHER EDUCATIONAL EXPENDITURES APPLICABLE TO INTRAMURAL INSTRUCTION," FROM 1918–19 TO 1930–31

Year	Educational Administration	Departmental Equipment and Expense	Library Administration	Books and Binding	Physical and Social Welfare of Students	Fellowships, Scholarships, and Tuition Remissions	Total
1918–19....	6.17	5.60	5.58	1.85	3.62	4.43	27.25
1919–20....	6.38	7.17	5.04	1.79	3.44	4.46	28.28
1920–21....	6.43	7.83	5.21	1.50	3.13	6.39	30.49
1921–22....	6.46	7.34	4.98	1.46	3.59	6.71	30.54
1922–23....	5.89	8.07	5.13	1.73	3.51	6.26	30.59
1923–24....	6.44	8.15	4.95	1.49	3.57	6.67	31.27
1924–25....	7.44	8.19	4.97	1.63	3.26	6.25	31.74
1925–26....	7.44	10.20	4.93	1.63	3.22	5.58	33.00
1926–27....	7.90	11.66	4.54	1.86	2.91	5.49	34.36
1927–28....	8.31	16.47	4.33	1.84	3.64	5.15	39.74
1928–29....	7.54	19.43	3.83	1.78	4.11	4.27	40.96
1929–30....	7.77	21.72	3.43	1.73	3.75	3.89	42.29
1930–31....	7.00	24.13*	3.09	1.44	3.27	3.90	42.83

* More than half the increase in this item since 1918–19 was occasioned by increases in the budget of the Clinics and the Oriental Institute.

proximately two-fifths. Expenditures for books and binding comprised a relatively constant percentage of the total budget expenditures, although the tendency for this item has been downward during the most recent years. The percentage of total budget expendi-

budget in recent years than in the earlier part of the period; this simply means that these Schools did not have a budget expansion commensurate with that in the University as a whole. The percentage for pub-

TABLE 40

PERCENTAGE OF TOTAL BUDGET EXPENDITURES DEVOTED TO EACH SUB-ITEM UNDER THE GENERAL CLASSIFICATION "SPECIAL EDUCATIONAL ACTIVITIES," FROM 1918–19 TO 1930–31

Year	Extramural Activities				Laboratory Schools	Publications	Total
	Home-Study	University College	Institute of Sacred Literature	Lecture Study			
1918–19....	2.33	1.46	0.17	0.35	6.47	1.23	12.01
1919–20....	2.63	1.47	.15	.27	5.32	0.80	10.64
1920–21....	2.49	1.41	.18	.34	6.17	0.68	11.27
1921–22....	2.80	1.45	.25	.34	6.74	1.74	13.32
1922–23....	2.63	1.66	.27	0.28	6.44	1.96	13.24
1923–24....	2.57	2.40	.46	.....	6.31	1.54	13.28
1924–25....	2.72	2.77	.41	.....	6.05	1.66	13.61
1925–26....	2.74	2.56	.41	.....	6.90	1.26	13.87
1926–27....	2.40	2.73	.35	.....	6.28	1.68	13.44
1927–28....	1.80	2.31	.29	.....	4.92	1.37	10.69
1928–29....	1.68	2.42	.28	.....	4.78	1.03	10.19
1929–30....	1.48	2.15	.22	.....	4.57	2.06	10.48
1930–31....	1.25	2.00	0.19	.....	4.16	1.93	9.53

lications fluctuated considerably, but tended to increase in the most recent years.

RECEIPTS

Table 41 presents an analysis of the budget income of the University, classified according to source. This

table omits from consideration the extra-budget income which, as previously explained, consists chiefly of non-recurring items assigned to specific departments or for specific projects for a definite period.

TABLE 41

ANNUAL BUDGET INCOME OF THE UNIVERSITY, CLASSIFIED BY SOURCE, FROM 1918–19 TO 1930–31

Year	Income from Student Fees for Residence Work on the Quadrangles	Endowment Income	Income from Special Educational Activities*	Income from Clinics and Professional Fees	Gifts	Other Income for Intramural Purposes†	Total
1918–19.....	$ 581,196	$1,326,727	$207,882	.....	.....	$ 95,435	$2,211,240
1919–20.....	834,030	1,314,326	244,748	.....	$ 48,140	200,043	2,641,287
1920–21.....	1,052,851	1,466,366	339,760	.....	93,550	156,789	3,109,316
1921–22.....	1,119,752	1,494,712	413,125	.....	142,700	167,005	3,337,294
1922–23.....	1,165,397	1,679,565	469,408	.....	39,875	184,997	3,539,242
1923–24.....	1,320,375	1,668,754	527,809	.....	48,875	186,632	3,752,445
1924–25.....	1,394,832	1,659,468	544,539	.....	69,250	188,306	3,856,395
1925–26.....	1,444,627	1,886,522	614,159	.....	225,550	213,538	4,384,396
1926–27.....	1,654,225	2,091,456	677,665	.....	292,739	203,735	4,919,821
1927–28.....	1,825,011	2,384,652	644,915	$157,605	673,921	328,889	6,014,993
1928–29.....	1,774,146	2,713,273	639,859	351,028	607,785	429,414	6,515,505
1929–30.....	1,793,387	3,185,210	720,967	500,761	878,131	317,793	7,396,249
1930–31.....	2,001,724	3,429,351	708,933	762,392	875,779	260,807	8,038,986

* Special educational activities include Home-Study, University College, The Institute of Sacred Literature, the Laboratory Schools, and the University Press.

† Other income for intramural purposes includes net income from room rents and Commons, income from the Baptist Theological Union, interest on general investments and bank balances, the General Education Board, and miscellaneous.

The amounts of the extra-budget income may be approximated roughly from the data given in Table 35 for extra-budget expenditures.

The trend in total budget receipts was similar to that already shown for total budget expenditures. It will be observed that the largest amounts of income

were derived from student fees and endowment. The endowment income was larger than the income from student fees during the entire period covered by this study, but the difference was especially pronounced in the last three years of the period. In 1930–31 the endowment income was 71 per cent larger than the income from student fees. The rate of increase in income from student fees over the thirteen-year period was approximately the same as the rate of increase in total budget income. Income from endowment did not increase as rapidly as the total budget income, due principally to the fact that endowment income did not show important increases during the earlier years of the period studied. A substantial income was received from gifts in recent years, although this was a relatively minor source of income in the earlier years of the period. The trend in income from special educational activities, including the Home-Study Department, University College, The American Institute of Sacred Literature, the Laboratory Schools, and the University Press, reflects the general growth in these supplementary activities of the University.

Table 42 presents a percentage distribution of total budget income from each source during the thirteen-year period from 1918–19 to 1930–31.

The percentage of budget income received from each source varied considerably over the period studied. The percentage of income from students ranged from 24 to 36 per cent, but the general tend-

ency after 1924–25 was to obtain a decreasing percentage of the total budget income from student fees. During the last eight years of the period there was

TABLE 42

PERCENTAGE OF TOTAL ANNUAL BUDGET INCOME OF THE UNIVERSITY RECEIVED FROM EACH SOURCE, FROM 1918–19 TO 1930–31

Year	Income from Student Fees for Residence Work on the Quadrangles	Endowment Income	Income from Special Educational Activities*	Income from Clinics and Professional Fees	Gifts	Other Income for Intramural Purposes†
1918–19	26.28	60.00	9.40	.....	.....	4.32
1919–20	31.58	49.76	9 27	.....	1.82	7.57
1920–21	33.86	47.16	10.93	.....	3.01	5.04
1921–22	33.55	44.79	12 38	.....	4.28	5.00
1922–23	32.92	47.46	13.26	.....	1.13	5.23
1923–24	35.19	44.47	14.07	.....	1.30	4.97
1924–25	36.17	43.03	14.12	.....	1.80	4.88
1925–26	32.95	43.03	14.01	.....	5.14	4.87
1926–27	33.62	42.51	13.78	.....	5.95	4.14
1927–28	30.34	39.65	10.72	2.62	11.20	5.47
1928–29	27.23	41.64	9.82	5.39	9.33	6.59
1929–30	24.25	43.07	9.75	6.77	11.87	4.29
1930–31	24.90	42.66	8.82	9.48	10.90	3.24

* Special educational activities include Home-Study, University College, The Institute of Sacred Literature, the Laboratory Schools, and the University Press.

† Other income for intramural purposes includes net income from room rents and Commons, income from the Baptist Theological Union, interest on general investments and bank balances, the General Education Board, and miscellaneous.

only a small fluctuation in the percentage of income from endowment, the figure being in the neighborhood of 42 per cent for most of these years. During the earlier years of the period studied the percentage of

income from endowment was somewhat higher. Income from gifts, which during the earlier years of the period comprised only a small percentage of the budget income, reached significant proportions in the last four years of the period studied, amounting to approximately 10 per cent of the total budget income.

Table 43 presents an analysis of the percentage of total budget income that was received from student fees in each school and college from 1918–19 to 1930–31. In making these computations, the total budget income of the University was considered as 100 per cent and the amount received from each school or college was computed as a percentage of this total. The percentages indicate the extent to which income from student fees in each unit of the University contributed toward the total budget income. The Graduate Library School has been omitted from this tabulation because the income from student fees in this unit is extremely small. Fees received in the Home-Study Department and in University College have also been omitted from this tabulation, inasmuch as these are accounted for under the category of special educational activities. Table 43 does not include an analysis of certain types of fees, such as matriculation and diploma fees, that are not directly allocable to the various colleges and schools. Fees of this type were included, however, in Table 42; hence the total percentage from student fees in Table 43 is less than that shown in Table 42.

The percentage of budget income from students in the Graduate Schools of Arts, Literature, and Science increased considerably over the period studied, the percentage in 1930–31 being almost double that in

TABLE 43

PERCENTAGE OF BUDGET INCOME FROM STUDENT FEES FOR RESIDENCE WORK ON THE QUADRANGLES FROM EACH SCHOOL OR COLLEGE, FROM 1918–19 TO 1930–31

Year	Graduate (Arts, Literature, and Science)	Undergraduate (Arts, Literature, and Science)	Divinity School	Law School	School of Education	School of Business	School of Social Service Administration	Rush Medical College	Total
1918–19	3.42	13.72	0.63	0 68	3.01	1.99	.....	.....	23.45
1919–20	4.17	14.75	0.66	1 74	3.38	3.64	.....	.....	28.34
1920–21	4.35	15.47	1.02	2 09	3.29	4.46	0.19	.....	30.87
1921–22	4.99	14.15	0.93	2.02	3.95	4.31	.29	.....	30.64
1922–23	5.29	13.17	0.85	2 11	3.97	3.82	.28	.....	29.49
1923–24	5.82	14.76	0.82	2.15	4.67	3.38	.26	.....	31.86
1924–25	5.84	14.43	0.83	2.03	4.43	3.08	.32	1.90	32.86
1925–26	6.06	13.27	0.82	2.02	2.95	2.65	.35	1.89	30.01
1926–27	6.36	14.14	0.79	2.33	2.71	2.51	.41	1.83	30.78
1927–28	6.34	13.80	0.91	2.21	2.21	1.12	.45	1.78	28.82
1928–29	6.00	12.34	0.78	2.14	1.82	0.97	.44	1.50	25.99
1929–30	5.35	11.29	0 61	1.88	1.50	0.88	.42	1.26	23.19
1930–31	6.54	10.37	0.81	1.82	1.60	0.86	0.53	1.44	23.97

1918–19. The percentage of income from undergraduate students in the Colleges of Arts, Literature, and Science was approximately constant during the earlier years of the period, but decreased somewhat after 1923–24. The trends of income from graduate and

undergraduate students have been affected principally by the numbers of students enrolled in these classifications, although variations in the amount of the fee charged at the different levels have also affected the trend in percentage of income from each classification. The other units have contributed only relatively small proportions of the total budget income of the University. It will be noted that the percentage of income from students in the School of Education declined steadily after 1926–27. In a preceding chapter[7] it has been pointed out that the College of Education has been discontinued; the decrease in proportion of student fees collected from this unit merely indicates the curtailing of the enrolments.

The receipts from tuition fees may also be compared with the amount that is returned to students in the form of scholarships and remitted fees.[8] Table 44 presents such a comparison, the data being limited to students in the Schools and Colleges of Arts, Literature, and Science. Data were chosen at five-year intervals from 1903–4 to 1928–29.

It is clear from this table that the percentage which the scholarships and remitted fees were of the total student-fee collections in Arts, Literature, and Science steadily decreased over the twenty-five-year period covered by this study. While there were large increases in the amounts of scholarships and remitted

[7] Chap. ii.

[8] A further treatment of this topic is presented in Vol. X of The University of Chicago Survey, *Some University Student Problems*.

fees, these increases fell far short of the total increases in student-fee collection. It should be pointed out that this study does not include the rather large distribution of student aid made under the terms of the La Verne Noyes Foundation, which is available to

TABLE 44

RECEIPTS FROM TUITION FEES, AND EXPENDITURES FOR STUDENT AID, IN ARTS, LITERATURE, AND SCIENCE,* FOR SELECTED YEARS FROM 1903–4 TO 1928–29

Year	Total Student Fees	Endowed Scholarships	Unendowed Scholarships and Remitted Fees†	Total Scholarships and Remitted Fees	Percentage That Scholarships and Remitted Fees Were of Student Fees
1903–4	$ 195,042	$3,300	$ 39,963	$ 43,263	22.2
1908–9	240,983	3,472	43,023	46,495	19.3
1913–14	322,686	3,895	51,794	55,689	17.3
1918–19	378,975	4,871	47,032	51,903	13.7
1923–24	772,170	8,121	62,149	70,270	9.1
1928–29	1,194,561	9,089	91,005	100,094	8.4

* Prior to 1923–24 certain Divinity scholarships were budgeted under Arts, Literature, and Science.

† This item does not include the aid administered under the terms of the La Verne Noyes Foundation. Expenditures for fellowships and assistantships were also excluded.

those who have served in the military or naval forces of the United States or to their descendants, nor does it include expenditures for fellowships and assistantships. This omission from the table is justified because the Noyes Scholarships are a form of aid of an entirely different type from that designated under the usual endowed scholarships or remitted fees.

parable. Since all the valid comparisons of interrelationships among the trends of growth in the various factors have already been brought out and discussed in the preceding chapters, there remains for this summary chapter only the recapitulation of a few of the more important general findings.

ENROLMENTS

In general, there have been three phases in the growth of enrolments since 1903–4. From 1903–4 to 1918–19 enrolments were increasing at a steady pace. Immediately after the close of the World War the increase in enrolments was greatly accelerated for a few years. About 1925 or 1926 this acceleration ceased and the number of students remained relatively constant at a figure of approximately fourteen thousand different students during the entire year, the number decreasing slightly after 1928–29. Summer Quarter enrolments began to decrease much earlier than those of the regular year; indeed, there was no important decrease in Autumn Quarter enrolments within the period covered by this study.

The trends within the various units of the University have been irregular. Decreases began much earlier in the professional schools than in the various levels of the Colleges and Schools of Arts, Literature, and Science. In recent years graduate students have formed the largest group in the enrolments. The next largest group has consisted of the students enrolled in

CHAPTER IX

SUMMARY

This study has traced the trends of growth in the University of Chicago in a number of factors that are susceptible of objective treatment. Analyses have been made of the trends in student enrolments, student-majors of registration, degrees granted, instructional staff, curriculum development, physical plant and equipment, and finances. For the most part the study of trends has been limited to the period since 1903–4. As the study was originally planned, the data were to close with the year 1928–29, thus permitting an analysis of trends over a twenty-five-year period. During the time the data were being collected and interpreted important developments took place within the University, so that it seemed desirable in many instances to present data for the year 1930–31. Intensive treatment has been given to the developments during the post-war period from 1918–19 to 1930–31.

An effort has been made throughout the study to relate the trends of growth in the various factors. This has been difficult because the available data for the several factors have not always been on the same basis. It has therefore been necessary to limit the comparisons to those in which the bases were com-

parable. Since all the valid comparisons of interrelationships among the trends of growth in the various factors have already been brought out and discussed in the preceding chapters, there remains for this summary chapter only the recapitulation of a few of the more important general findings.

ENROLMENTS

In general, there have been three phases in the growth of enrolments since 1903–4. From 1903–4 to 1918–19 enrolments were increasing at a steady pace. Immediately after the close of the World War the increase in enrolments was greatly accelerated for a few years. About 1925 or 1926 this acceleration ceased and the number of students remained relatively constant at a figure of approximately fourteen thousand different students during the entire year, the number decreasing slightly after 1928–29. Summer Quarter enrolments began to decrease much earlier than those of the regular year; indeed, there was no important decrease in Autumn Quarter enrolments within the period covered by this study.

The trends within the various units of the University have been irregular. Decreases began much earlier in the professional schools than in the various levels of the Colleges and Schools of Arts, Literature, and Science. In recent years graduate students have formed the largest group in the enrolments. The next largest group has consisted of the students enrolled in

University College, the down-town teaching center, but these have been almost all on a part-time basis. Professional-school students have been in third place in recent years. Senior-college students have been slightly more numerous than junior-college students, but these two groups together have been approximately equal to the single category of graduate students. Unclassified students decreased in number until recently they have formed an almost negligible proportion of the entire enrolment.

Women students have been slightly in the majority in recent years.[1] The trends in the enrolments of men and women students have been approximately parallel, although there was some fluctuation from year to year. The proportions of men and women students in the several units of the University during the regular year have varied markedly, women being greatly in the majority in University College, but the number of men being much greater than the number of women in the total professional-school enrolments and in the graduate schools. In recent years men have been slightly in the majority in the junior college, but in the senior college there has been little difference in the numbers of men and women students. The percentage of women students in almost all the divisions of the University has been larger during the Summer quarters than during the regular year.

[1] If University College enrolments are left out of consideration, men students outnumber the women students.

The study of trends in enrolment does not seem to afford a basis for the prediction of future enrolments. This is a matter so obviously controlled by University policies that statistical predictions based on the curves plotted for preceding years are meaningless.

STUDENT-MAJORS OF REGISTRATION

The number of student-majors of registration affords more accurate representation of the instructional load within the University than is afforded by the statistics of enrolments, since the unit of enrolment may vary from the part-time student enrolled for only one term or quarter, or carrying only a part-time program, to the student enrolled for more than a normal course load for four quarters of the year. The computation of the student-majors of registration is laborious, and for that reason trends of growth in this factor have been presented for only a few years. In general, the growth in student-majors of registration paralleled that in enrolments. During the period studied the bulk of the instructional load was in the Schools and Colleges of Arts, Literature, and Science, only about one-third being in the professional schools.

The use of student-majors of registration has an advantage over simple enrolment data in that trends of growth within the various departments of the University can be analyzed by this method. Almost all of the departments showed considerable increases in the number of student-majors of registration during the

twenty-year period from 1908–9 to 1928–29. The Department of English had the largest number of student-majors of registration both in 1908–9 and in 1928–29, and the Department of History was in second place in both years. An analysis of trends in the four divisions, into which the departments of Arts, Literature, and Science are grouped under the present plan of the University, showed that the largest increases during the twenty-year period were in the Divisions of the Social Sciences and the Biological Sciences. In 1928–29 the Division of the Social Sciences had the largest number of student-majors of registration, followed closely by the Division of the Humanities.

DEGREES

There has been a rapid increase in the number of degrees granted by the University. During the decade from 1921–22 to 1930–31 the University conferred more degrees than during the entire twenty-eight years of its previous history. The most rapid increase was in the professional degrees, although during the period studied intensively, from 1918–19 to 1930–31, bachelor's degrees consistently comprised the majority of all degrees conferred. The number of degrees increased much more rapidly than the number of students enrolled. The ratio of the number of higher degrees to the total number of students enrolled was doubled between 1919–20 and 1930–31.

The number of higher degrees in the several schools

and colleges varied considerably, the bulk of these degrees being in the Graduate Schools of Arts, Literature, and Science. In recent years the ratios of enrolments to higher degrees have been decreasing in almost all the schools and colleges of the University. After 1918–19 the Division of the Social Sciences conferred each year a much larger number of graduate degrees (master's and Ph.D.) than any of the other divisions in Arts, Literature, and Science, but a large majority of the graduate degrees in the Division were master's degrees. In three of the four most recent years for which data are presented, the Division of the Biological Sciences conferred the largest number of Ph.D. degrees annually, being exceeded only one year, 1929–30, by the Division of the Physical Sciences. In recent years the Divisions of the Physical Sciences and the Social Sciences have conferred approximately the same number of Ph.D. degrees. The Division of the Humanities conferred each year a much smaller number of Ph.D. degrees than any of the other divisions, but was exceeded in number of master's degrees only by the Division of the Social Sciences.

An analysis of the departments in which graduate degrees had been conferred showed a wide variation in the extent to which each of the departmental units had contributed to the total production of degrees. Almost half of the graduate degrees conferred from 1918–19 to 1930–31 were in four departments—

Education, History, English, and Chemistry; there were thirteen departments whose combined total of graduate degrees in this period amounted to less than 5 per cent of the grand total. Almost all the departments conferred more graduate degrees in the six-year period from 1924–25 to 1929–30 than in the six-year period immediately preceding.

FACULTY

The number of members on the instructional staff in 1930–31 was approximately twice as large as in 1913–14. The growth in number of faculty members after 1908–9 kept pace almost exactly with the growth of the instructional load as measured by student-majors of registration. In the three years—1908–9, 1918–19, and 1928–29—for which data are available for both student-majors of registration and faculty members, the numbers of student-majors per faculty member were 126, 125, and 125, respectively, indicating practically no change in the instructional loads per faculty member within this period.

The distribution of faculty members by rank during the period from 1903–4 to 1930–31 was remarkably constant. In the entire University approximately 40 per cent of the staff held the rank of professor during this period, and from 20 to 25 per cent the rank of instructor. The percentage holding the rank of professor was much larger in the professional schools than in the departments of the Colleges and Graduate Schools of Arts, Literature, and Science, but it must be re-

called that a relatively large percentage of the work of the professional schools is at the graduate level.

The instructional-salary budget in 1930–31 was almost four times as large as it was in 1908–9. The expenditure for salaries per faculty member increased from $2,448 in 1908–9 to $4,197 in 1930–31. When account was taken of the change in the value of the dollar during this period, the expenditure for faculty salaries per staff member was found to have been slightly less in purchasing power in 1930–31 than it was in 1908–9, but the continued decline in the value of the dollar since 1930–31 without any concomitant decreases in faculty salaries has probably changed this situation materially. Faculty-salary expenditures increased somewhat more rapidly than the instructional load, as measured by student-majors of registration. In 1908–9 the faculty salary expenditure per student-major of credit was $20.74; in 1928–29 it was $36.13. When the change in the value of the dollar was taken into account, the figure for 1928–29 was slightly smaller than that for 1908–9. The significant change that has occurred in the purchasing power of the dollar since 1928–29, the latest year for which data were presented in this study of the faculty-salary budget, should be taken into account in interpreting these trends.

COURSES AND CLASSES

Curriculum development may be measured somewhat crudely by statistics showing the number of courses taught and the number of classes maintained.

During the period from 1903–4 to 1928–29 the number of courses taught increased 115 per cent, and the number of classes maintained increased 124 per cent. Among the divisions of Arts, Literature, and Science the increase was most rapid in the Division of the Social Sciences; after 1918–19 there was a marked expansion in the offerings in the professional schools, a considerable part of which was occasioned by the organization of new units within the University.

The number of courses and classes did not increase quite as rapidly as the student enrolments over the period from 1903–4 to 1928–29. During the last five years of this period, however, when enrolments were approximately constant, the increase in courses and classes was the largest occurring at any time during the history of the University. A comparison of trends in student-majors of registration with trends in the number of courses and classes indicates that growth in these factors proceeded at about the same rate after 1908–9. The number of student-majors of registration per class for the entire University was 17.9 in 1908–9 and 18.0 in 1928–29.

The increases in courses and classes were approximately paralleled by increases in number of faculty members, particularly since 1908–9. The reason for this parallelism is found in the policy of the University which contemplated that each faculty member should teach two classes during each of three quarters of the academic year.

PHYSICAL PLANT

A convenient measure of the extensiveness of the physical plant is the number of cubic feet of space contained in the buildings of the University. The University during its first year had about three and one-third million cubic feet of space; in 1931 there were over forty-six million cubic feet of space. The trend of growth in building cubature showed three phases. Prior to 1918 the cubature was increasing consistently and rapidly, with an average annual increase of a little less than one million cubic feet. From 1918 to 1927 the amount of cubature increased much more slowly than at any previous period, the average annual increase being less than one-half million cubic feet. Since 1927 the increase has been much more rapid than ever before, the average annual increase in the four years following 1927 being almost five million cubic feet. The total cubature of the University in 1931 was almost double that in 1923.

The comparison between rates of increase in building cubature and in enrolment is interesting. From 1903 to 1918 building space was increasing almost twice as rapidly as enrolments. From 1918 to 1926 enrolments increased very rapidly, while, as was noted previously, new building construction proceeded at a very much reduced rate; as a result the ratio of space to enrolment was much smaller in 1926 than it was in 1903. Since 1926 enrolments have been approximately stationary, but new building construction has gone

on at an unprecedented rate, so that in 1930 the ratio of space to enrolment was the largest that it was at any time since the very early years of the University.

FINANCES

At the close of the first fiscal year of the University in 1893 the total assets were a little over $3,000,000, an excellent beginning for so young an institution. At the close of the fiscal year in 1931 the total assets were $108,779,459. The growth in assets was particularly marked in the last six or seven years for which data are presented, the total assets in 1931 being approximately twice the total in 1924. The endowment-fund assets increased at about the same rate as the total assets. The endowment fund formed a surprisingly constant percentage of the total assets, between 50 and 60 per cent of the total assets being endowment during the greater part of the history of the University.

It is interesting to compare the growth in total assets with the growth in enrolments. Between 1903–4 and 1918–19 assets were increasing much more rapidly than enrolments. The rapid increase in enrolments following the World War was not immediately matched by corresponding increases in assets, and as a result the ratio of enrolments to assets during the period from 1921–22 to 1924–25 approached the ratio for 1903–4. The cessation of increases in enrolments,

occurring about 1926, was countered by an exactly opposite trend in assets, the increases in assets from 1926 to 1931 proceeding at a more rapid rate than ever before. As a result, in 1931 the ratio of assets to enrolment was more than double the ratio obtaining in 1903–4.

The increases in total assets have been far greater than the increases in number of members on the instructional staff. In 1931 there were six times as many dollars of assets as in 1904; but there were only a little more than twice as many faculty members in 1930–31 as in 1903–4. The total faculty-salary budget increased at almost the same rate as the total assets, but somewhat less rapidly than the increases in the endowment. The increase in number of courses offered was much less than the increase in assets.

The total educational and general expenditures of the University (omitting from consideration the expenditures for the University Press, the Commons, dormitories, athletics, and annuities under contract) increased from a little more than two million dollars in 1918–19 to more than nine million dollars in 1930–31. The increase in expenditures since 1918–19 has been at a very much more rapid rate than the increases in number of students or number of faculty members. An analysis of the total budget expenditures (it is only in recent years that non-budget expenditures have formed any considerable part of the total) indicates that the item of departmental equip-

ment and expense has shown the most rapid increase of any of the items in the budget. The total expenditures for faculty salaries have increased a little less rapidly than the total budget expenditures. Expenditures for business administration formed a practically constant percentage of the total annual budget during the years from 1918–19 to 1930–31. The percentage of the total devoted to educational administration fluctuated somewhat from year to year, but in the most recent years has shown a tendency to decrease. The percentage of total budget expenditures devoted to the maintenance and operation of the plant has steadily decreased, even though the years covered by this analysis witnessed a remarkable expansion in the amount of plant space.

Revenue from endowment funds was the largest single source of income during each year of the period from 1918–19 to 1930–31; student fees provided the second largest source of income. In recent years a very substantial income has been received from current gifts. Receipts from student fees have increased much more rapidly than the expenditures of the University for scholarships and remitted fees (excluding from consideration the grants from the La Verne Noyes Foundation). In 1903–4 expenditures for scholarships and remitted fees were equivalent to 22 per cent of the total fee collections; in 1928–29 the percentage was only 8.

CONCLUSION

This study of trends of growth was originally undertaken, merely as a matter of historical interest, to establish an accurate record of trends in preceding years, with the thought that future progress might be measured against these statistics. Certain of the data collected have proved valuable in analyzing some of the problems considered in other volumes of The University of Chicago Survey.

Throughout this study there has been little or no attempt to point out the implication of trends for the guidance of the institution, although there are many obvious points at which the data presented could properly be given earnest consideration in developing the future policies of the University. It is the opinion of the survey staff that the interpretation of these trends and the application to future policies are matters that concern the Board of Trustees, administration, and faculty of the University.

tain records has been called into question, and at least one compilation of data, maintained at a very considerable annual expense, has failed to justify its continuation in its present elaborate form and is being greatly simplified and its cost reduced. Important factors for which adequate records have not been kept in the past have been revealed, and plans are under way for gathering the necessary data on these points.

It is hoped and expected that the annual addition of the necessary statistics to the data that have been provided in this volume will furnish the University with a valuable chart of its future progress.

APPENDIX

TABLE 45

Students Enrolled, Classified by Quarters of Residence, for Selected Years from 1903–4 to 1930–31

Year	Students Enrolled During				Total Students*
	Summer Quarter	Autumn Quarter	Winter Quarter	Spring Quarter	
1903–4	2,226	2,347	2,255	1,875	4,580
1908–9	3,034	2,690	2,725	2,364	5,603
1913–14	3,755	3,737	3,646	3,192	7,297
1918–19	3,813	4,112	3,716	3,641	8,593
1919–20	4,949	5,568	5,455	5,101	10,841
1920–21	5,403	5,940	5,755	5,163	11,361
1921–22	6,437	6,144	5,837	5,430	12,403
1922–23	6,450	6,569	6,163	5,661	12,710
1923–24	6,356	6,862	6,509	6,042	13,317
1924–25	6,232	7,635	7,233	6,479	13,890
1925–26	6,577	7,868	7,474	6,753	14,472
1926–27	6,504	7,844	7,521	6,861	14,500
1927–28	6,471	8,084	7,661	6,802	14,474
1928–29	6,323	8,058	7,648	6,925	14,433
1929–30	5,847	8,515	7,848	6,871	14,245
1930–31	5,447	7,932	7,633	6,945	13,646

* Duplicates were excluded.

TABLE 46

NUMBER OF STUDENTS ENROLLED IN SUMMER AND AUTUMN QUARTERS, CLASSIFIED UNDER THE CATEGORIES OF ARTS, LITERATURE, AND SCIENCE STUDENTS AND PROFESSIONAL-SCHOOL STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Summer Quarter				Autumn Quarter			
	Arts, Literature, and Science	Professional-School	Duplicates	Total Students	Arts, Literature, and Science	Professional-School	Duplicates	Total Students
1903–4	1,524	810	108	2,226	1,925	549	127	2,347
1908–9	1,995	1,173	134	3,034	2,138	770	218	2,690
1913–14	2,435	1,435	115	3,755	3,171	826	260	3,737
1918–19	2,560	1,441	188	3,813	3,384	923	195	4,112
1919–20	3,278	1,920	249	4,949	4,404	1,499	335	5,568
1920–21	3,476	2,145	218	5,403	4,640	1,617	317	5,940
1921–22	3,982	2,678	223	6,437	4,799	1,678	333	6,144
1922–23	4,131	2,557	238	6,450	5,188	1,695	314	6,569
1923–24	4,144	2,439	227	6,356	5,598	1,572	308	6,862
1924–25	4,023	2,397	188	6,232	6,147	1,797	309	7,635
1925–26	4,609	2,160	192	6,577	6,391	1,767	290	7,868
1926–27	4,574	2,127	197	6,504	6,314	1,854	324	7,844
1927–28	4,616	2,010	155	6,471	6,756	1,662	334	8,084
1928–29	4,587	1,922	186	6,323	6,728	1,662	332	8,058
1929–30	4,279	1,764	196	5,847	7,226	1,687	398	8,515
1930–31	4,022	1,650	225	5,447	6,715	1,607	390	7,932

TABLE 47

STUDENTS ENROLLED, CLASSIFIED AS JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, UNIVERSITY COLLEGE, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Enrolment						Duplicates	Total Students
	Junior-College	Senior-College	Graduate-School	Professional-School	University College	Unclassified		
1903–4	840	530	1,068	1,382	435	675	350	4,580
1908–9	1,117	768	1,416	1,926	429	677	730	5,603
1913–14	1,447	1,014	1,799	2,191	1,106	636	896	7,297
1918–19	1,869	1,137	1,995	2,565	1,311	589	873	8,593
1919–20	1,968	1,490	2,665	3,471	1,816	784	1,353	10,841
1920–21	1,958	1,692	2,679	3,717	1,892	760	1,337	11,361
1921–22	1,852	1,756	3,325	4,206	1,963	703	1,402	12,403
1922–23	1,934	1,707	3,485	4,023	2,318	711	1,468	12,710
1923–24	1,902	1,675	3,717	3,783	3,143	576	1,479	13,317
1924–25	1,912	1,748	3,830	3,983	3,438	437	1,458	13,890
1925–26	2,043	1,920	4,254	3,677	3,680	555	1,657	14,472
1926–27	2,006	2,033	4,321	3,693	3,493	509	1,555	14,500
1927–28	2,061	2,011	4,529	3,426	3,601	462	1,616	14,474
1928–29	1,990	2,072	4,571	3,027	3,754	372	1,353	14,433
1929–30	2,017	2,080	4,386	3,169	3,824	338	1,569	14,245
1930–31	1,999	2,192	4,108	2,964	3,654	373	1,644	13,646

TABLE 48

AUTUMN QUARTER ENROLMENTS OF JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, UNIVERSITY COLLEGE, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

YEAR	ENROLMENT						DUPLICATES	TOTAL STUDENTS
	Junior-College	Senior-College	Graduate-School	Professional-School	University College	Unclassified		
1903–4	670	328	464	549	367	188	219	2,347
1908–9	868	417	416	770	293	148	222	2,690
1913–14	1,117	649	500	826	803	110	268	3,737
1918–19	1,415	581	376	923	934	85	202	4,112
1919–20	1,537	845	696	1,499	1,198	144	351	5,568
1920–21	1,569	1,022	676	1,617	1,298	111	353	5,940
1921–22	1,463	1,083	859	1,678	1,363	90	392	6,144
1922–23	1,517	1,013	965	1,695	1,641	115	377	6,569
1923–24	1,516	1,006	1,024	1,572	2,017	85	358	6,862
1924–25	1,509	1,032	1,163	1,797	2,388	76	330	7,635
1925–26	1,595	1,086	1,260	1,767	2,435	78	353	7,868
1926–27	1,575	1,172	1,346	1,854	2,198	77	378	7,844
1927–28	1,705	1,210	1,417	1,662	2,468	75	453	8,084
1928–29	1,634	1,181	1,439	1,662	2,520	66	444	8,058
1929–30	1,643	1,327	1,513	1,687	2,772	82	509	8,515
1930–31	1,629	1,316	1,487	1,607	2,284	66	457	7,932

TABLE 49

PERCENTAGE OF TOTAL AUTUMN QUARTER ENROLMENTS* CLASSIFIED AS JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

YEAR	ENROLMENT				
	Junior-College	Senior-College	Graduate-School	Professional-School	Unclassified
1903–4	30.5	14.9	21.1	25.0	8.5
1908–9	33.1	15.9	15.9	29.4	5.7
1913–14	34.9	20.3	15.6	25.8	3.4
1918–19	41.9	17.2	11.1	27.3	2.5
1919–20	32.6	17.9	14.7	31.8	3.0
1920–21	31.4	20.5	13.5	32.4	2.2
1921–22	28.3	20.9	16.6	32.5	1.7
1922–23	28.6	19.1	18.2	31.9	2.2
1923–24	29.1	19.4	19.7	30.2	1.6
1924–25	27.1	18.5	20.8	32.2	1.4
1925–26	27.6	18.8	21.8	30.5	1.3
1926–27	26.1	19.5	22.3	30.8	1.3
1927–28	28.1	19.9	23.4	27.4	1.2
1928–29	27.3	19.7	24.1	27.8	1.1
1929–30	26.3	21.2	24.2	27.0	1.3
1930–31	26.7	21.5	24.4	26.3	1.1

* Duplicates were not excluded.

TABLE 50

SUMMER QUARTER ENROLMENTS* OF JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Enrolment					Duplicates	Total Students
	Junior-College	Senior-College	Graduate-School	Professional-School	Unclassified		
1903–4.....	160	217	712	810	435	108	2,226
1908–9.....	203	278	1,036	1,173	479	135	3,034
1913–14....	279	330	1,310	1,435	516	115	3,755
1918–19....	235	388	1,483	1,441	454	188	3,813
1919–20....	307	430	1,961	1,920	580	249	4,949
1920–21....	242	548	2,074	2,145	612	218	5,403
1921–22....	258	609	2,546	2,678	569	223	6,437
1922–23....	257	626	2,673	2,557	575	238	6,450
1923–24....	254	597	2,814	2,439	480	228	6,356
1924–25....	302	562	2,822	2,397	337	188	6,232
1925–26....	330	697	3,131	2,160	451	192	6,577
1926–27....	279	700	3,181	2,127	414	197	6,504
1927–28....	253	665	3,328	2,010	370	155	6,471
1928–29....	264	678	3,369	1,922	276	186	6,323
1929–30....	256	710	3,078	1,764	235	196	5,847
1930–31....	230	705	2,835	1,650	252	225	5,447

* During the period represented by these data University College offered no courses during the Summer Quarter.

TABLE 51

PERCENTAGE OF TOTAL SUMMER QUARTER ENROLMENTS* CLASSIFIED AS JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

YEAR	ENROLMENT				
	Junior-College	Senior-College	Graduate-School	Professional-School	Unclassified
1903–4	6.9	9.3	30.5	34.7	18.6
1908–9	6.4	8.8	32.7	37.0	15.1
1913–14	7.2	8.5	33.9	37.1	13.3
1918–19	5.9	9.7	37.1	36.0	11.3
1919–20	5.9	8.3	37.7	36.9	11.2
1920–21	4.3	9.7	36.9	38.2	10.9
1921–22	3.9	9.2	38.2	40.2	8.5
1922–23	3.8	9.4	40.0	38.2	8.6
1923–24	3.9	9.1	42.7	37.0	7.3
1924–25	4.7	8.8	44.0	37.3	5.2
1925–26	4.9	10.3	46.2	31.9	6.7
1926–27	4.2	10.4	47.5	31.7	6.2
1927–28	3.8	10.1	50.2	30.3	5.6
1928–29	4.1	10.4	51.8	29.5	4.2
1929–30	4.2	11.8	50.9	29.2	3.9
1930–31	4.1	12.4	50.0	29.1	4.4

* Duplicates were not excluded.

TABLE 52

AUTUMN QUARTER ENROLMENTS IN VARIOUS GRADUATE AND PROFESSIONAL SCHOOLS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Graduate School of Arts and Literature	Ogden Graduate School of Science	Law School	Divinity School	School of Business	School of Social Service Administration	Graduate Library School	College of Education	Medical Schools		Duplicates within Professional Schools
									School on Quadrangles	Rush Medical College	
1903–4	308	156	92	182	152	.....	.....	118	157	.....	.....
1908–9	237	179	209	198	213	.....	.....	188	178	.....	3
1913–14	272	228	213	122	156	.....	.....	290	205	.....	4
1918–19	200	176	46	112	362	.....	.....	215	191	.....	3
1919–20	375	321	315	157	584	.....	.....	242	206	.....	5
1920–21	342	334	299	150	659	34	.....	220	256	.....	1
1921–22	437	422	326	177	653	51	.....	227	246	.....	2
1922–23	501	464	329	194	631	73	.....	257	218	.....	7
1923–24	552	472	336	180	524	52	.....	279	216	.....	15
1924–25	646	517	328	201	495	58	.....	221	224	279	9
1925–26	709	551	335	213	503	93	.....	164	195	282	18
1926–27	756	590	419	247	470	90	.....	133	208	309	22
1927–28	783	634	422	279	264	118	.....	72	225	309	27
1928–29	783	656	442	299	242	133	.....	71	204	303	32
1929–30	801	712	466	254	242	135	14	71	223	296	14
1930–31	780	707	373	256	219	147	24	48	250	303	13

TABLE 53

SUMMER QUARTER ENROLMENTS IN VARIOUS GRADUATE AND PROFESSIONAL SCHOOLS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Graduate School of Arts and Literature	Ogden Graduate School of Science	Law School	Divinity School	School of Business	School of Social Service Administration	Graduate Library School	College of Education	Medical Schools		Duplicates within Professional Schools
									School on Quadrangles	Rush Medical College	
1903–4	454	258	52	222	28	.....	.....	382	154	.....	.....
1908–9	632	404	121	220	35	.....	.....	685	148	.....	1
1913–14	847	463	144	238	24	.....	.....	954	99	.....	.....
1918–19	1,051	432	60	220	41	.....	.....	942	181	.....	3
1919–20	1,403	558	164	274	57	.....	.....	1,263	163	.....	1
1920–21	1,464	610	178	281	185	.....	.....	1,304	200	.....	3
1921–22	1,709	837	214	340	282	40	.....	1,603	201	.....	2
1922–23	1,738	935	212	298	273	43	.....	1,519	214	.....	2
1923–24	1,946	868	224	284	270	41	.....	1,425	196	.....	1
1924–25	1,982	840	196	319	213	53	.....	1,292	156	169	1
1925–26	2,228	903	201	336	222	94	.....	979	163	173	8
1926–27	2,307	874	189	409	221	100	.....	869	165	187	13
1927–28	2,437	891	184	444	221	117	.....	692	158	214	20
1928–29	2,446	923	183	430	179	120	.....	632	190	207	19
1929–30	2,174	904	235	386	161	141	14	496	170	175	14
1930–31	2,019	816	207	366	165	161	19	392	181	170	11

TABLE 54

TOTAL ENROLMENTS AND SUMMER AND AUTUMN QUARTER ENROLMENTS OF MEN AND WOMEN, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Students Enrolled During					
	Summer Quarter		Autumn Quarter		Entire Year	
	Men	Women	Men	Women	Men	Women
1903–4	1,128	1,098	1,219	1,128	2,319	2,261
1908–9	1,566	1,468	1,450	1,240	2,843	2,760
1913–14	1,817	1,938	1,817	1,920	3,438	3,859
1918–19	1,365	2,448	1,921	2,191	3,783	4,810
1919–20	2,154	2,795	2,974	2,594	5,029	5,812
1920–21	2,396	3,007	3,166	2,774	5,354	6,007
1921–22	3,006	3,431	3,283	2,861	5,894	6,509
1922–23	3,137	3,313	3,405	3,164	6,106	6,604
1923–24	3,075	3,281	3,437	3,425	6,287	7,030
1924–25	3,060	3,172	3,856	3,779	6,584	7,306
1925–26	3,219	3,358	4,028	3,840	6,908	7,564
1926–27	3,187	3,317	4,058	3,786	6,992	7,508
1927–28	3,267	3,204	4,173	3,911	6,990	7,484
1928–29	3,131	3,192	4,157	3,901	6,878	7,555
1929–30	3,006	2,841	4,287	4,228	6,855	7,390
1930–31	2,785	2,662	4,193	3,739	6,722	6,924

TABLE 56

SUMMER QUARTER ENROLMENTS* OF MEN AND WOMEN CLASSIFIED AS JUNIOR-COLLEGE, SENIOR-COLLEGE, GRADUATE-SCHOOL, PROFESSIONAL-SCHOOL, AND UNCLASSIFIED STUDENTS, FOR SELECTED YEARS FROM 1903–4 TO 1930–31

Year	Enrolment										Duplicates		Total Students	
	Junior-College		Senior-College		Graduate-School		Professional-School		Unclassified					
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
1903–4	86	74	128	89	451	261	436	374	121	314	94	14	1,128	1,098
1908–9	125	78	147	131	681	355	568	605	165	314	120	15	1,566	1,468
1913–14	136	143	172	158	788	522	604	831	224	292	107	8	1,817	1,938
1918–19	114	121	151	237	594	889	505	936	177	277	176	12	1,365	2,448
1919–20	170	137	197	233	994	967	704	1,216	255	325	166	83	2,154	2,795
1920–21	135	107	257	291	1,068	1,006	847	1,298	281	331	192	26	2,396	3,007
1921–22	155	103	307	302	1,397	1,149	1,082	1,596	258	311	193	30	3,006	3,431
1922–23	147	110	314	312	1,520	1,153	1,072	1,485	294	281	210	28	3,137	3,313
1923–24	117	137	275	322	1,600	1,214	1,052	1,387	234	246	203	25	3,075	3,281
1924–25	152	150	239	323	1,573	1,249	1,099	1,298	166	171	169	19	3,060	3,172
1925–26	155	175	282	415	1,709	1,422	1,100	1,060	139	312	166	26	3,219	3,358
1926–27	124	155	261	439	1,726	1,455	1,119	1,008	134	280	177	20	3,187	3,317
1927–28	101	152	261	404	1,784	1,544	1,144	866	117	253	140	15	3,267	3,204
1928–29	113	151	251	427	1,751	1,618	1,081	841	100	176	165	21	3,131	3,192
1929–30	108	148	307	403	1,652	1,426	1,045	719	73	162	179	17	3,006	2,841
1930–31	92	138	290	415	1,517	1,318	1,006	644	86	166	206	19	2,785	2,662

* During the period represented by these data University College offered no courses during the Summer Quarter.

TABLE 57

PERCENTAGE OF TOTAL NUMBER OF HIGHER DEGREES* CONFERRED EACH QUARTER FROM 1921–22 TO 1930–31

YEAR	PERCENTAGE DISTRIBUTION OF DEGREES CONFERRED			
	Summer Quarter	Autumn Quarter	Winter Quarter	Spring Quarter
1921–22	34.4	10.7	12.2	42.7
1922–23	46.4	9.4	10.6	33.6
1923–24	46.8	6.1	10.0	37.1
1924–25	39.3	8.1	14.1	38.5
1925–26	39.0	13.4	11.3	36.3
1926–27	41.8	10.3	12 0	35.9
1927–28	39.3	11.9	12.8	36.0
1928–29	41.9	12.0	15.3	30.8
1929–30	37.7	14.2	14.5	33.6
1930–31	38.7	14.5	14.2	32.6

* Includes Master of Arts, Master of Science, Doctor of Philosophy, and professional degrees.

TABLE 58

TOTAL NUMBER OF HIGHER DEGREES CONFERRED IN EACH SCHOOL OF THE UNIVERSITY IN EACH OF TWO CONSECUTIVE SIX-YEAR PERIODS, FROM 1918–19 TO 1923–24 AND FROM 1924–25 TO 1929–30

School	Degree	Total Number of Degrees From		Percentage of Increase*
		1918–19 to 1923–24	1924–25 to 1929–30	
Arts, Literature, and Science	Total	1,711	2,940	71.83
	Ph.D.	489	838	71.37
	Master's	1,222	2,102	72.01
Divinity	Total	311	324	4.18
	Ph.D.	35	70	100.00
	Master's	218	218	0.00
	B.D.	58	36	− 37.93
Business	Total	57	92	61.40
	Ph.D.	2	11	450.00
	Master's	55	81	47.27
Social Service Administration	Total	14	85	507.14
	Ph.D.	1	8	700.00
	Master's	13	77	492.31
Graduate Library	Total	.....	4	.....
	Ph.D.	.....	1	.....
	Master's	.....	3	.....
Law	Total	437	594	35.93
	LL.B.	101	84	− 16.83
	J.D.	336	508	51.19
	J.S.D.	.....	2	.....

* Decreases are indicated by a minus sign (−).

TABLE 58—*Continued*

School	Degree	Total Number of Degrees From 1918–19 to 1923–24	Total Number of Degrees From 1924–25 to 1929–30	Percentage of Increase*
Rush Medical	M.D.	.....	849	.....
Total University	Total	2,530	4,888	93.20
	Ph.D.	527	928	76.09
	Master's	1,508	2,481	64.52
	Professional	495	1,479	198.79

TABLE 59

NUMBER OF GRADUATE STUDENTS ENROLLED PER WEIGHTED GRADUATE DEGREE* IN FOUR SCHOOLS OF THE UNIVERSITY OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31

Year	Graduate Schools of Arts, Literature, and Science	Divinity School	School of Business	School of Social Service Administration	All Four Schools Combined
1918–19	7.82	2.86	.....	.....	6.71
1919–20	8.13	3.79	.....	.....	7.38
1920–21	6.75	3.85	18.50	.....	6.40
1921–22	6.60	3.32	10.30	12.67	6.19
1922–23	6.00	3.18	5.22	18.33	5.60
1923–24	5.96	3.89	6.76	5.70	5.74
1924–25	6.01	4.44	9.00	9.40	5.96
1925–26	6.07	4.59	8.30	7.65	6.00
1926–27	5.36	4.95	15.00	12.36	5.53
1927–28	6.29	6.20	11.18	13.29	6.50
1928–29	5.05	3.48	6.46	10.10	5.00
1929–30	5.18	3.76	7.38	7.79	5.16
1930–31	5.23	4.47	6.95	12.94	5.36
Entire period	5.92	4.00	8.28	10.05	5.80

* The weighted total of graduate degrees has been computed by giving Ph.D. degrees and B.D. degrees a weighting of three, and master's degrees a weighting of one.

TABLE 60

DISTRIBUTION OF MASTER'S AND PH.D. DEGREES CONFERRED EACH YEAR FROM 1918–19 TO 1930–31 IN THE DIVISIONS AND IN THE PROFESSIONAL SCHOOLS

Year	All Divisions Combined			Biological Sciences			Humanities			Physical Sciences			Social Sciences			Professional Schools		
	Master's	Ph.D.	Total	Master's	Ph.D.	Total	Master's	Ph.D.	Total	Master's	Ph.D.	Total	Master's	Ph.D.	Total	Master's	Ph.D.	Total
1918–19..	120	45	165	23	18	41	43	12	55	20	11	31	34	4	38	31	7	38
1919–20..	148	60	208	29	17	46	29	8	37	28	25	53	62	10	72	38	5	43
1920–21..	175	74	249	37	14	51	48	13	61	36	28	64	54	19	73	38	2	40
1921–22..	228	92	320	31	19	50	44	14	58	48	39	87	105	20	125	61	4	65
1922–23..	269	104	373	54	30	84	52	21	73	58	41	99	105	12	117	58	10	68
1923–24..	282	114	396	48	37	85	63	19	82	59	37	06	112	21	133	60	10	70
1924–25..	316	107	423	46	20	66	70	20	00	61	41	102	139	26	165	51	6	57
1925–26..	324	126	450	62	39	101	60	20	80	56	39	95	146	28	174	56	17	73
1926–27..	347	153	500	58	34	92	97	31	128	50	53	103	142	35	177	54	11	65
1927–28..	357	121	478	56	37	93	79	21	100	48	33	81	174	30	204	66	9	75
1928–29..	392	171	563	67	51	118	82	29	111	68	44	112	175	47	222	81	21	102
1929–30..	366	160	526	71	45	116	89	31	120	47	50	97	159	34	193	71	26	97
1930–31..	365	140	505	54	48	102	101	24	125	49	33	82	161	35	196	55	21	76
Entire period.	3,689	1,467	5,156	636	409	1,045	857	263	1,120	628	474	1,102	1,568	321	1,889	720	149	869

TABLE 61

PERCENTAGE OF TOTAL MASTER'S AND PH.D. DEGREES CONFERRED IN EACH DIVISION AND IN THE PROFESSIONAL SCHOOLS OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31

Year	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Professional Schools
1918–19	20.20	27.09	15.27	18.72	18.72
1919–20	18.33	14.74	21.11	28.69	17.13
1920–21	17.65	21.11	22.14	25.26	13.84
1921–22	12.99	15.06	22.60	32.47	16.88
1922–23	19.05	16.55	22.45	26.53	15.42
1923–24	18.24	17.60	20.60	28.54	15.02
1924–25	13.75	18.75	21.25	34.37	11.88
1925–26	19.31	15.30	18.16	33.27	13.96
1926–27	16.28	22.66	18.23	31.33	11.50
1927–28	16.82	18.08	14.65	36.89	13.56
1928–29	17.74	16.69	16.84	33.39	15.34
1929–30	18.62	19.26	15.57	30.98	15.57
1930–31	17.56	21.51	14.11	33.74	13.08

TABLE 62

PERCENTAGE OF TOTAL PH.D. DEGREES CONFERRED IN EACH DIVISION AND IN THE PROFESSIONAL SCHOOLS OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31

Year	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Professional Schools
1918–19	34.62	23.08	21.15	7.69	13.46
1919–20	26.15	12.31	38.46	15.39	7.69
1920–21	18.42	17.11	36.84	25.00	2.63
1921–22	19.79	14.58	40.63	20.83	4.17
1922–23	26.32	18.42	35.96	10.53	8.77
1923–24	29.84	15.32	29.84	16.93	8.07
1924–25	17.70	17.70	36.28	23.01	5.31
1925–26	27.27	13.99	27.27	19.58	11.89
1926–27	20.73	18.90	32.32	21.34	6.71
1927–28	28.46	16.15	25.39	23.08	6.92
1928–29	26.56	15.11	22.91	24.48	10.94
1929–30	24.19	16.67	26.88	18.28	13.98
1930–31	29.81	14.91	20.50	21.74	13.04

TABLE 63

PERCENTAGE OF TOTAL MASTER'S DEGREES CONFERRED IN EACH DIVISION AND IN THE PROFESSIONAL SCHOOLS OVER A THIRTEEN-YEAR PERIOD FROM 1918–19 TO 1930–31

Year	Biological Sciences	Humanities	Physical Sciences	Social Sciences	Professional Schools
1918–19	15.23	28.48	13.24	22.52	20.53
1919–20	15.59	15.59	15.06	33.33	20.43
1920–21	17.37	22.54	16.90	25.35	17.84
1921–22	10.73	15.22	16.61	36.33	21.11
1922–23	16.51	15.90	17.74	32.11	17.74
1923–24	14.04	18.42	17.25	32.75	17.54
1924–25	12.53	19.07	16.62	37.88	13.90
1925–26	16.32	15.79	14.73	38.42	14.74
1926–27	14.46	24.19	12.47	35.41	13.47
1927–28	13.24	18.68	11.35	41.13	15.60
1928–29	14.16	17.34	14.38	37.00	17.12
1929–30	16.25	20.36	10.76	36.38	16.25
1930–31	12.86	24.05	11.67	38.33	13.09

TABLE 64

NUMBER OF CLASSES MAINTAINED, NUMBER OF STUDENT-MAJORS CARRIED, AND AVERAGE SIZE OF CLASSES FOR EACH DEPARTMENT OF ARTS, LITERATURE, AND SCIENCE, FOR THE YEARS 1908–9 AND 1928–29

DEPARTMENT*	NUMBER OF				AVERAGE SIZE OF CLASSES	
	Classes Maintained		Student-Majors Carried*			
	1908–9	1928–29	1908–9	1928–29	1908–9	1928–29
General Survey	.....	10	.....	588	.....	58.8
Philosophy	28	45	445	1,234	15.9	27.4
Psychology	24	57	559	1,220	23.3	21.4
Education†	45	139	909	3,532	20.2	25.4
Economics	47	183	968	2,393	20.6	13.1
Political Science	21	63	426	1,548	20.3	24.6
History	67	148	1,952	3,836	29.1	25.9
Art	11	49	153	991	13.9	20.2
Sociology and Anthropology	40	94	864	2,104	21.6	22.4
Home Economics	25	106	303	1,150	12.1	10.8
Comparative Religion	4	14	81	173	20.3	12.4
Oriental Languages	54	60	558	646	10.3	10.8
New Testament	33	33	452	732	13.7	22.2
Comparative Philology	22	10	51	29	2.3	2.9
Greek	38	36	398	263	10.5	7.3
Latin	56	45	743	521	13.3	11.6
Romance	71	147	1,156	2,213	16.3	15.1
Germanic	75	96	1,372	1,010	18.3	10.5
English	97	199	2,680	5,378	27.6	27.0
Comparative Literature	6	13	251	309	41.8	23.8
Mathematics	58	96	1,018	1,724	17.6	18.0
Astronomy	25	45	301	599	12.0	13.3
Physics	47	97	700	1,266	14.9	13.1

* The Department of Physical Culture was not included in this table because data concerning the number of classes maintained in the Department were not available.

† Only courses in the Department of Education were included. There were 140 other education classes maintained in the School of Education in 1908–9, and 90 in 1928–29.

TABLE 64—*Continued*

Department*	Number of				Average Size of Classes	
	Classes Maintained		Student-Majors Carried*			
	1908–9	1928–29	1908–9	1928–29	1908–9	1928–29
Chemistry	100	159	1,456	2,172	14.6	13.7
Geology and Paleontology	49	61	752	839	15.3	13.8
Geography	16	60	466	1,032	29.1	17.2
Botany	47	87	478	970	10.2	11.1
Zoölogy‡	43	55	366	1,072	8.5	19.5
Military Science	.....	23	.....	323	.....	14.0
Public Speaking	27	.....	641	.....	23.7	.....
Anatomy	42	77	629	998	15.0	13.0
Physiology	22	33	422	797	19.2	24.2
Physiological Chemistry and Pharmacology	11	51	285	626	25.9	12.3
Pathology	17	20	239	414	14.1	20.7
Hygiene and Bacteriology	11	40	157	594	14.3	14.9
Medicine	.....	50	.....	161	.....	3.2
Surgery	.....	32	.....	160	.....	5.0
Total Arts, Literature, and Science	1,279	2,533	22,231	43,617	17.4	17.2

‡ Including medical courses in zoology.

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